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SPORT

IN THE

HIGHLANDS AND LOWLANDS OF SCOTLAND

FOR WAR.

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SPORT

IN THE

HIGHLANDS AND LOWLANDS OF SCOTLAND

WITH ROD AND GUN

BY

THOMAS SPEEDY

With Illustrations

WILLIAM BLACKWOOD AND SONS
EDINBURGH AND LONDON
MDCCCLXXXIV

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TO

W. J. LITTLE GILMOUR, ESQ.,

WHOSE EXCELLENCE AS A SPORTSMAN

IS SO WELL KNOWN,

AND IN WHOSE SERVICE MOST OF THE INFORMATION

CONTAINED IN THE FOLLOWING PAGES

HAS BEEN ACQUIRED,

This Book

IS RESPECTFULLY DEDICATED.

PREFACE.

In presuming to contribute an additional volume to the literature of Natural History and Field-sports I offer no apology, other than that I believe it to contain important information not hitherto published. My attention has naturally been given more to the practical, and what may be called the professional, aspect of the various subjects discussed, than to that which is mainly theoretical. Few have had such opportunities of becoming acquainted with the fauna of this country; while my experience of sport, both with rod and gun, has been somewhat extensive, more especially north of the Tweed.

Having from early life cultivated a habit of observation, and been animated by a desire to profit as much as possible by the circumstances in which I was placed, I have been enabled to put on record numerous incidents and facts from which valuable lessons may be deduced.

Although it cannot be expected that veteran sportsmen whose experience may equal or surpass my own, will agree with me in every particular, yet I am hopeful that they will discover in the following pages something that will at least interest and amuse, if it does not convey instruction. At the same time, I venture to express the opinion, that youthful students of natural history, as well as enthusiastic but inexperienced sportsmen, will find much useful information, blended with hints and suggestions that will largely contribute to their enjoyment, safety, and success on the moor, the lake, and by the river.

While having no wish to disarm or discourage criticism, I confidently anticipate that 'Sport in the Highlands and Lowlands of Scotland' will receive a kindly reception from all interested in the several subjects of which it treats, and who appreciate the motives which have induced its publication.

T. S.

The Inch, Edinburgh,
July 1, 1884.

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SPORT IN THE HIGHLANDS AND LOWLANDS OF SCOTLAND.

CHAPTER I.

INTRODUCTORY.

The changes which have taken place in the social arrangements of the United Kingdom during the last quarter of a century have contributed in no small degree to the material prosperity of the empire, and to an increase in the means of intellectual and rational enjoyment. The cheap, easy, and extended means of locomotion have opened up the country, so that all classes can have their views enlarged by being brought in direct contact with the picturesque and rugged grandeur of our mountain wilds, as well as with the wealth and opulence of our teeming cities. With the view of meeting the tear and wear of physical and brain work in this rapid age of excessive competition, modern enterprise has, by the erection of numerous hydropathic institutions, ren-

dered increasingly popular those fashionable watering-places, where the pleasure-seeker finds much real enjoyment, and the careworn occupant of the warehouse and the counting-room rusticates in the realisation of that temporary release from worry and anxiety to which every honest and industrious contributor to the wealth and happiness of the nation is entitled.

Perhaps by nothing more than the great change —in fact, a revolution—which has taken place in our educational system is the benefit conferred upon the present generation made more manifest. The old system of teaching, which was alike irksome and monotonous to the teacher and the pupil, has disappeared, and the school-days have become invested with interest by the modern appliances which have been introduced into our educational seminaries. The foolish notion that education had fulfilled its functions by merely instilling into the mind certain ideas, and which was necessarily limited to intellectual culture, is happily exploded. That there is a necessary and intimate connection between the body and the mind, is a truth which society has been slow to understand. But for the general ignorance which has prevailed on the mysterious—nevertheless real and important — relation which exists between the physical and the intellectual in human nature, it would have been utterly impossible for the physical training of the youth of our country to have been so long and systematically neglected.

By the introduction of calisthenics, drill, and gymnastics into our educational system, a well-directed effort has been made to check the physical deterioration of society, upon which so much is being written, and to develop that sturdy manliness for which the British people have been long proverbial.

The love of field-sports, and prominent among these shooting and fishing, appears to have been universal among the inhabitants of Great Britain from the earliest ages. The instinct, not for mere blood and slaughter, but for fair and reasonable sport, is beyond question natural to the inhabitants of all northern latitudes, and would seem to be indispensable to the development of the physical constitution. Now that the legitimate character and physical advantages of field-sports are being universally recognised, it is most desirable that these should be made as enjoyable as possible. To attain this, the difficulties and obstacles which stand in the way of those who desire to participate in them should be minimised. It is therefore highly necessary that a knowledge should be acquired of the nature and details affecting the sphere of enjoyment which may be selected in accordance with the tastes and aspirations of different classes. None but those who have had actual experience can understand how much depends upon attention to many matters of detail which to the uninitiated may appear of no moment whatever. We have known many a fine day's enjoyment—when all the various elements of success were profusely supplied—marred,

and ending in mortification and disappointment, simply from ignorance or inattention to certain elementary principles or matters of detail; a remark which applies very specially to the enjoyment sought by the use of the rod and gun.

Many a splendid day's shooting and healthy and exhilarating exercise has been destroyed by the stupid blunderings of some inexperienced gillie, by the wild escapades of some half-broken, unmanageable dog, by the reckless use of firearms by some over-confident amateur, or by some unfortunate mishap which a little previous knowledge and methodical arrangement would have prevented. Again, how frequently has a splendid day's trout or salmon fishing ended in bitter disappointment, while the river, the lake, and the atmosphere were all that could be desired, by some trivial incident and circumstance which might easily have been avoided by a little thoughtful consideration! A rod the joints of which had proved faulty, a line or cast not adapted to the circumstances, the using of flies or bait incompatible with the season and the state of the lake or river, have each in its turn contributed to convert what might have been a day of piscatorial enjoyment into one of worry and dissatisfaction.

In order to meet these and many other obstacles which beset the path of those who seek enjoyment from the sources indicated, it is indispensable that a given amount of information be acquired by the angler and sportsman, to whom, as to all others, "know-

ledge is power." As this knowledge cannot always be acquired by actual experience, it is our aim and object in the present volume to communicate information in such simple and popular form as may be of service to those whose tastes and inclinations lead them to seek enjoyment and healthy exercise on the moor and river. Our plan is to treat each department of our subject in its natural and consecutive order; and while endeavouring to contribute information that may be valuable, we hope to introduce such occasional and well-authenticated incidents and illustrations as may render the work at once useful, instructive, and interesting.

Grouse at home.

CHAPTER II.

THE TAKING OF A MOOR.

The initiatory step of the sportsman is one fraught with difficulty, and no small amount of risk. We refer to the taking of a moor. The advertisements, which are generally painted in attractive colours, in the columns of the newspapers, or in some of the

lists of shooting quarters, are not always to be depended on.

"Ten thousand acres, well stocked with grouse, ptarmigan, black game, roe-deer, hares, rabbits—and as it marches with a well-known deer-forest, red-deer are occasionally on the grounds"—is a tempting inducement to a sportsman of sanguine temperament.

However flattering and plausible the advertisement or printed conditions may appear, it is of *vital importance* that a personal inspection of the ground, by some experienced and reliable sportsman or keeper, with dogs, be made before the rent or conditions of let are seriously entertained. It is no less important to guard against the inspection being of a perfunctory or partial kind. Much disappointment, and frequently litigation, have been experienced which might and ought to have been avoided had this manifest but oft-neglected suggestion been attended to. No one who undertakes the inspection of a moor should omit to note down his observations and first impressions of the shooting under consideration. Here, again, he cannot be too particular; every brace or covey of birds that he has flushed, with the number of hours he has been out, and the extent of ground he has covered, should be marked down with scrupulous care. Notice should also be taken of the extent of the "droppings" of the birds, as in this manner a pretty correct estimate of the stock can be formed. By observing this it will be easily seen whether the birds are young or old, and if the coveys are large or small.

Should it be during the hatching season, and the birds plentiful, the excreta of the sitting hens may be seen in considerable quantities at the sides of springs and places where the birds drink.

At the same time, it is desirable to avoid being carried away with first impressions. The keeper, who is generally anxious to have his place let, very naturally takes his visitors to the best part of the moor, and where grouse are most plentiful. In response to such an advertisement as the one referred to, the person appointed to report on the shooting may be taken over a thousand acres of good grouse-ground, and see a fair stock of birds; but what of the other nine thousand acres? Probably a great part of it may be green mountains and rocky ridges, where the loquacious keeper will tell him there are large quantities of ptarmigan and abundance of mountain-hares. It is certainly very enjoyable, on a fine clear day, with a gentle breeze, to be on the tops of the high mountains and shoot a few brace of those beautiful birds. But let no one be influenced by ptarmigan, however strong may be the desire to shoot some of them, as ground where ptarmigan abound generally means high mountains, useless for grouse; consequently little sport may be expected, with the exception of a day or two at blue hares, which, it is well to keep in mind, have of late years greatly decreased in the Highlands of Scotland.

Where there is a party to consult in renting a moor, it is important, in order to a satisfactory report,

that the person visiting should be able to describe its accessibility, the distance from a railway station, market-town or village where supplies can be had, post-office, &c., stating particulars as to the road—if undulating, or otherwise. The size and convenience of the lodge, kennels, stables, &c., should also be noted. The cleanliness of the kennels should be specially seen to, as we have known dogs in splendid condition become speedily affected with mange on being put into a strange kennel, and the sport and comfort of the sportsman for the season thereby seriously impaired. It is surprising how many keepers are indifferent to this most important particular. The quantity and various kinds of game, and if there is sufficient cover for birds, must of course be inquired into; and yet too much old heather is to be deprecated, as birds will scarcely go there, unless driven in for shelter from the gun.

The burning of the heather is another important point. It should be burned in patches or strips, a little every year, so that there is always plenty of young heather for the birds to feed on. Should the farmer or grazier have full control over the burning of the heather, we would advise those who are in quest of shootings to satisfy themselves that he be reasonable and considerate as to the interest of the proprietor and his game-tenant, otherwise have nothing to do with it; as burning to feed sheep is one thing and to kill game another thing.

Two gentlemen once asked us to accompany them

with a brace of dogs to inspect a moor in Peeblesshire about the time the birds commenced to nest. The dogs being very good, found numerous pairs of birds, which, at that time of the year, sat close. The gentlemen were in ecstasies, remarking what sport they would get on the twelfth of August, when each pair would be a covey. In spite of our calling attention to the fact that the heather was too severely burned —there not being sufficient cover for the birds—the gentlemen took the moor at a fabulous rent, and consequently met with a serious disappointment. There was a good stock of birds on the ground, but after the first day or two they could not be got near, except in the case of a few late broods. We afterwards ascertained that they wished they had taken our advice, as the Twelfth, being a drizzling wet day, they returned from the day's sport with three brace of grouse, a rabbit, and a snipe, and after a few more unsuccessful days they gave it up in disgust.

The burning of the heather, therefore, should receive most serious consideration, as the quality of the ground is of as much importance as the quantity of birds, unless it be intended to resort to "driving." It is a mistake to suppose, as many do, that there should be no moor-burning in the interests of grouse-shooting. This is as great an evil, and operates as injuriously against the sportsman as when the heather is burned without any regard to the interest of the game tenant. Not only do grouse, as a rule, decline to nestle amid large patches of old heather, but those

that are reared in such circumstances, long ere the shooting season commences, betake themselves to those moors that are burned so that they may obtain young heather, indispensable for food.

It is a great mistake to allow heather to remain for many years unburned. If heather is allowed to become wood before it is burned, the chances are that it will never again grow to be of any practical use. In many parts of Scotland heather is now largely disappearing and giving place to coarse grass and rank vegetation. This, we believe, to be largely accounted for by the extensive system of drainage now being introduced, and the increase of stock on mountain-grazings.

The instincts of grouse are remarkable, as seen in their looking forward to the rearing of their young; for, as stated, they rarely make their nests amid rank old heather. Their habit is to select a small patch of heather, not extending over a few yards, in proximity to some young heather, or benty green stripes, and no great distance from some open spring, or where the water meanders down amid bog-myrtle, fog, or gravelly channel. The selection of such places by grouse, as we have indicated, however much it may be overlooked by those to whom natural history is a subject of no great interest, is a matter of necessity for the preservation of the species. Were they to make their nests in the centre of large patches of old rank heather, not only would the birds suffer from want of water, but they would become entangled and perish in large

numbers. There are, however, certain contingencies of an adverse nature which occasionally overtake and destroy the entire brood. Those hail-storms and heavy rains, experienced not unfrequently among the mountain-ranges of Scotland during the latter half of May and the beginning of June, often prove disastrous to the grouse. The destruction of young birds arising from this source has of late been increasing every year. Now that the moorlands are being so much cut up with surface or sheep drains, a ready shelter is thus afforded to young birds. These drains, being generally dry in the bottom after a long drought, are frequently taken advantage of by the unsuspecting mother-bird for her young offspring. The result is, that after the ground has become well soaked the drains gradually fill with water, and the young birds, being unable to make their escape, suffer largely by being drowned. The evil here referred to is aggravated by young birds attempting to cross these drains before they are able to fly. In dry warm weather, being exceedingly active, they generally contrive to find their way out of these pitfalls; but when partially filled with water, their efforts to escape are too frequently unavailing. Where moors are thus drained, keepers should, every ten or twelve yards, slope down places in the sides of the drains in order that the young birds may effect their escape. The grouse, when fully matured, is one of the most hardy of the feathered tribe—it can endure any amount of cold; but young birds are very apt to

succumb when beset with a few continuous days of wet and exposure.

It is very desirable for gentlemen who are somewhat up in years, or who are not robust—in order to have enjoyable sport—that the moor should be easily travelled. We do not mean to infer that the moors should be level: in that case the birds, seeing the approach of men and dogs from a long distance, take care as a general rule to keep out of range.

The ground best adapted for killing grouse is rough patches of heather, intermixed with green bent or "sprets," or occasionally ferns and bog-myrtle. They also sit well among moss-hags in warm dry weather, and are fond of broken ground, with adjacent mountains in the distance, as they like to get on high ground when frequently disturbed, especially by the sportsman. They will also be found by the sides of old peat-roads, on which they pick up small stones necessary for digestion.

We would further recommend, that in looking out for a grouse-shooting, facilities for angling should not be ignored. This many sportsmen, who have no special taste for fishing, are apt to undervalue and overlook. It is after being doomed to the monotony of a shooting-lodge for several wet days in succession that the advantage of a good trouting lake, and a few mountain-streams are fully appreciated. The keenest sportsman is apt to get, it may be, footsore or wearied after traversing the moor and mountain from day to day, and longs for a change of vocation. To such a

one we know no change more enjoyable than a day upon a lake in a safe boat, where trout are numerous and of a fair size. To the overworked business or professional man, who has been pent up in our large warehouses, counting-rooms, or universities, or who may have been compelled by public duty to give unremitting attention in Parliament, or our law courts, there are few things more enjoyable than an occasional day's fishing in some of those wild romantic Highland glens, where the trout are abundant, and where, being rarely molested, they afford a good basket without difficulty, especially after a few hours' rain.

Should a survey of the shooting-ground be made during the early summer—say the month of May—it is every way likely that lots of deer may be seen on the sky-line tossing their antlers,—for they have not yet all cast them,—and proudly gazing down on the visitors, as if wondering who it is that intrudes on the solitude. To those unaccustomed to the sight it is apt to put them in a fever of excitement, and make their thoughts wander to their gunmaker's shop, where they intend to make their first call on returning home, and order a deer-stalking rifle. Should the party in his examination of the moor walk up to the march, the watershed of a mountain-ridge, he will probably find a wire-fence partially round the forest, especially where it marches with sheep-ground, generally three and a half or four feet high, erected, not so much for the purpose of keeping the deer in as for keeping the

sheep out. It is not impossible that his own personal observation may corroborate the statement of the keeper, that the wire-fence does not retard the egress or ingress of the deer, as they leap over it without difficulty. It is interesting to see them jumping the fence when they are unaware of being watched. They do not run and clear it with a bound, as one would naturally suppose, but walk close up to it till their breast almost touches the wires. They then rear up on their hind legs, and by a sudden spring—so quick that the eye can scarcely detect it—they are over, and will stand as unconcerned as if there was no fence within a mile of them.

Let the reader take a practical advice on this subject, and not be influenced either by the advertisement or his own inexperienced eyes, but make some necessary inquiries regarding the deer, otherwise he will be doomed to disappointment. Let him ask the keeper the plain question, How many stags were killed on this ground last season between the 12th of August and the 10th of October? and it is not improbable he may find that none were killed during the entire season.

We knew a party who were induced to take a large moor in Perthshire, chiefly on account of the prospects of their being able to obtain a reasonable amount of deer-stalking. Their expectations were formed in consequence of the glowing terms of the advertisement, and by their having seen a number of deer on the ground in the month of May when on a visit of

inspection. After purchasing rifles and practising at the target, they were not only disappointed of ever getting a shot at a deer, but learned, by cross-examination of the shepherds in the district, that there had not been such a thing as a stag killed there during the *stalking season* for twenty years, and yet "red-deer are occasionally on the ground" appeared in the advertisement of the shooting year after year. It is, therefore, immaterial whether deer are on the ground or not in the spring or early summer if they are not on it at the proper time for stalking—that is, as already indicated, from about the middle of August till the second week in October. Nature teaches these noble animals, when they get into condition, that they must take care of themselves,—consequently they seek the most inaccessible places, where shepherds and their dogs are rarely seen. At that time they roam little about, and the forest being cleared of sheep, grass grows luxuriantly, so that they do not require to stray in search of food. Should a stag by chance stray off his own ground, the moment he sees, hears, or scents anything indicating danger, he is off towards the forest, knowing it to be his home. In this respect they resemble those wild black-faced sheep of the mountain which, having strayed across the watershed or sky-line from their own beat, no sooner hear a whistle from the shepherd or a bark from his dog, than they scamper back across the march into their own legitimate territory.

Deer are proverbial for their watchfulness and fore-

sight, and never act without a motive. Birds lay their eggs, and sit on them for the purpose of hatching them. Salmon leave the sea and ascend the rivers for the purpose of spawning. Stags, as a rule, do not leave their native corries except during the rutting season, or when in search of food, or when driven in terror by the crack of the rifle and the commotion associated with a drive in the forest.

The motives or instincts which regulate the habits of the deer vary with the seasons, a fact which the anxious and enthusiastic deer-stalker will soon learn, not unfrequently to his disappointment and mortification. Every place, however, is not alike, and we know grouse-moors where numbers of stags are killed annually. Sportsmen should always have the map of the county in which the moor they are looking to is situated, and should be careful to discover how contiguous forests lie in relation to it; for should there be deer on two sides, even if one of them be ten miles off, they are sure to go to and fro: and if any likely corries intervene, they will halt in them occasionally.

This chapter would be incomplete were we not to caution those about to take a shooting to guard against the protracted delay and indefinite correspondence so peculiar to Highland factors. If the shooting is found to be suitable, and if the prospects of game and the accommodation in the lodge, &c., be satisfactory, let there be no unnecessary delay in closing, if the rent be not regarded as unreasonable.

When an offer is written out, make it a stipulation that it be accepted or rejected at once, or you will run the risk of finding out, to your mortification, that the shooting has been "let to another party" at an advance of rent, said advance having been extorted from a competing rival by means of your offer.

As to conditions, there are two things specially to be noted. First, let the general conditions not only be clear and intelligible, but let the period when the rent is payable be made distinct. By this precaution, much unpleasantness will, in all probability, be avoided. Second, the lessee ought to have it provided that the proprietor shall undertake the prosecution of all poachers apprehended upon the ground; or at all events he must consent to the tenant being entitled to prosecute in name of the proprietor. Where this is not attended to, and where the proprietor throws all responsibility on his tenant, poachers may scour the ground by day or night unmolested as far as legal penalties are concerned. This anomalous state of the law was illustrated in a decision of the Sheriff of Aberdeenshire, given in a game-law case in February 1879.[1]

By the law of Scotland, a tenant cannot prosecute

[1] "Sheriff Comrie Thomson, Aberdeen, yesterday decided this question on a game case which came before him at the instance of Sir William Forbes, Bart. of Craigievar, lessee of the shootings on part of the estate of Parkhill. After hearing parties, the Sheriff held that a lessee of shootings was not the occupier, and that although he could apprehend trespassers, he was not entitled to prosecute. The case was therefore thrown out."—'Edinburgh Courant,' February 7, 1879.

a poacher unless he have what is called a deputation —that is, a legal written authority from the proprietor to prosecute trespassers and poachers. But it is not uncommon to insert such a power in a game lease. The importance of having this condition attended to will commend itself to all interested in protecting the rights of sportsmen and in the preservation of game.

There are few things more to be desired than that a good understanding should exist between landlords and their shooting tenants. In the absence of this there is a danger of the most trifling incident upon the part of the tenant, or some of his visitors or gillies, being regarded as an offence, and proving a source of irritation, which may seriously affect the enjoyment of the tenant and his family during their sojourn among the mountains. That there is a tendency on the part of some landlords or their factors to be unreasonable, and to go the length of preferring charges against their tenants which may issue in legal proceedings, is, unfortunately, too easily verified.

It is quite a common thing for inconsiderate persons to circulate the most absurd and groundless stories about tenants, who have had a lease of shootings, "clearing the ground of game" during the last year of their contract, and thereby sacrificing the interest of the proprietor. We do not mean to say that there may not have been such cases, but in justice to sportsmen, we feel bound to say that, in so far as our experience goes, they have been extremely

rare. If the truth must be told, we believe that proprietors or their factors are more frequently at fault in the unreasonable expectations cherished by them as to the rule which ought to govern the sporting tenants. It is no rare thing to find landlords exacting large game rents, and on these having been paid, grumbling and complaining against their tenants for fully enjoying the privileges or rather rights for which they have handsomely paid. So unreasonable have some of them become, that they have not hesitated to drag their tenants into costly litigations, which are so distasteful to real gentlemen.

So recently as 1883 a striking illustration of the truth of our observations came before the Court of Queen's Bench, in London. From a report of the proceedings, it appeared that Mr T. M. Clutterbuck rented the Altnabraeck Moor on a lease of three years, terminating in December 1882, at a rent of £300 for the first two years and £350 for the last year. There was, of course, the usual provision in the lease that the tenant was to leave "a good breeding stock of grouse upon the ground at the termination of the lease." The proprietor, Mr W. A. Adams, alleged that his late tenant had so cleared the moor that "it would require two years' rest in order to get up the stock of game." In support of his allegation, he imported into the case certain statistics setting forth the number of brace killed by his tenant during each of the three years. The groundlessness of his action will appear when it is stated that the defendant

only shot 350 brace of grouse during the third year, being 505 brace fewer than he shot during the first year of his lease. In evidence it was brought out that disease had extensively prevailed on the moor, and that, in consequence, Mr Clutterbuck left for good on the 9th of September, and gave neither his landlord nor his game any further molestation. In further support of his claim, Mr Adams stated that, on the ground being hunted, it was found that the moor had been "skinned," and that, in consequence, he had lost the sum of £1000, in addition to £100 for wages to a keeper, who would require to preserve the stock for two successive years before the ground was in a fit condition to be again shot over. The wild and nonsensical theory proposed to be set up by Mr Adams was completely demolished by Mr Tait, an inspector of moors, who stated that it would take twenty or thirty men to hunt over the shooting simultaneously, being upwards of 10,000 acres in extent, in order to arrive at a correct estimate of the stock at that particular time. Mr Campbell Grant, an extensive sheep farmer of large experience, stated that he considered a sufficient breeding stock had been left by the tenant on his departure for the south. Mr Justice Manisty, on addressing the jury, called their attention to the fact, that while the case was one of a sporting character, in so far as they were concerned it was purely a commercial transaction. The jury, evidently regarding it as a trumpery affair, found a verdict for the defendant; and his lordship gave judgment accordingly.

We concur with what was said by the 'Field,' in an article upon this case, that, "as a rule, the complaints of sharp practice in dealing with moors came from the lessees, who are too often entrapped by specious representations of canny factors, who are keen to earn their own commissions."

Roe-buck.

Sporting dogs.

CHAPTER III.

PURCHASE AND MANAGEMENT OF DOGS.

THERE are few things which more specially demand the attention of the sportsman than the kennel. Without the aid of one or more good well-trained dogs, the realisation of sport upon a grouse-moor is simply impossible. In the absence of this acquisition, a moor abundantly stocked with grouse may be

obtained, but the sport will necessarily prove most indifferent, more especially at the commencement of the season. An occasional double shot may be got when the covey is first flushed, but after the birds have got scattered and settled down, without the aid of dogs all attempts to start the single birds will generally prove fruitless. Hence the time of the sportsman is being frittered away amid disappointment and irritation, with a light bag as the invariable result. In addition to the advantages of finding game rapidly, and of picking up the scattered brood with despatch, there is the additional pleasure to be derived from the skill and sagacity exhibited by dogs thoroughly trained for their work. We have indeed known some of the most experienced sportsmen who were so interested in studying the movements of dogs, and watching the skill with which they accomplished their deadly purpose, that the use of the gun was regarded by them as of secondary importance. To the naturalist and lover of the canine race, there are few sights more interesting than to see a brace of high-bred well-trained pointers or setters at work, skilfully quartering their ground. On catching the wind, and suddenly discovering that they are close upon their game, they present a view well worthy the attention of the artist. The one that is fortunate enough first to detect the birds, may be seen standing with glistening eyes directed toward the game, and quivering with nervous excitement; while the other, at a considerable distance, stands motionless

as a statue, all alive to the danger of the birds being prematurely set on wing. The gentleman who would enjoy grouse-shooting in such enviable circumstances, must look well to the purchasing of his dogs. If he would be saved an endless amount of worry and unrequited trouble, let him endeavour to ascertain, on reliable authority, before purchasing dogs, that their parentage has been well known and approved in sporting circles. This may necessitate the expenditure of a few additional pounds at the outset, but rest assured it will not only be found the most satisfactory, but the most economical in the long-run. It is surprising how slow many sportsmen are in recognising this palpable fact. Sometimes gentlemen attend auction sales, where they buy dogs cheap; and although they are generally warranted steady, the sportsman often finds, when it is too late, that he has been thoroughly deceived. Among the faults which characterise such purchases are those of being gun shy, springing their game, running in to shot, chasing hares, mouthing birds, worrying sheep, and many others, each and all as a general rule being altogether incurable.

After many years' experience, and out of several hundred dogs purchased under such circumstances, we have not known more than half-a-dozen of truly good dogs that would contribute to a gentleman's real sport and enjoyment. Many of them, we are free to confess, have been beautiful, well-made dogs; but this, it is scarcely necessary to say, is no guarantee

of their being either manageable or up to their work. We are not overlooking the fact that there are occasions when the kennels of noblemen and gentlemen are thrown into the market; but it is no less true that most of the dogs worth having, as a rule, are too well known not to find purchasers before they reach the sale-yard, to be knocked down, it may be, for a few shillings to the highest bidder. We would therefore advise intending purchasers of dogs to find out through their gunmaker, or the advertising columns of the newspapers, who has dogs to sell, and if not judges themselves, get some one who is to see them properly tried. If possible, get a dog known to be good, and hunt it along with those for sale, as they may be steady on their game—in fact, do nothing which could be called a fault—and yet be very indifferent. When tried beside a good dog, it is easily seen whether they are inferior or otherwise.

Assuming that a brace or more of good dogs has been got, the next consideration is to secure a good kennel to put them in. Many people think any place is good enough for dogs, and are content to let them be put away in any shed or outhouse, thinking that if they are in a house at all, they are all right. This is a great mistake: and nature might teach people that fine-coated dogs, pointers especially, should have a dry and warm place to sleep in. Inconsiderate keepers, intrusted with the charge of dogs during the shooting season, seem to forget that after a hard day's work—running perhaps sixty

or eighty miles at full speed—the pores of the skin are open, and the vital powers enfeebled, when they return in the evening to their kennel. Numbers of kennels at shooting-boxes are made of wooden slabs with no want of ventilation, and quite unfit for any dog. Should, however, they be built with stone and lime, they are very often constructed more for external show than for the warmth and comfort of the dogs. In the erection of a kennel, particular attention should be paid to its not being built in a hollow, but rather on an elevated position, and that the drainage be perfect, as smells emitted from drains have very much to do with the diseases of man and beast. The ground should always slope outwards, and the water be allowed to run several yards out of the kennel enclosure before there is a sink to admit it into the drain; as, should the sink be in the kennel, and rats be in the drain—by no means an unusual circumstance—a pointer or setter will stand for hours with its nose over it, and thus inhale a poisonous effluvia, by which disease may be engendered and death ensue.

In all circumstances, kennels should be made as dry and warm as possible—the bed made the proper size for the number of dogs, and deep enough that when lying in it any draught will blow right over them.

In order to dogs being kept healthy and comfortable, it is desirable that they should be taught to be cleanly in their habits. This is easily accomplished if attention be given to it when dogs are young. In

consequence of this important particular in the training of dogs being neglected, it is no unusual thing for a dog, every way fit for his work, to become an intolerable nuisance in a kennel. Many keepers regard it as hopeless to cure an old dog of the habit of soaking the straw with which he has been accommodated for his bed. This is a mistake; and however confirmed the habit in question, it may and ought to be corrected if due attention be given to the following rule. Take a block of wood, say two feet high, so broad at the bottom as not to be easily upset. Put said block in the centre of the yard or enclosed space in front of the kennel, and place beside it a quantity of the wet straw from the bench in which the delinquent dog has slept. The effect of this will be to attract the delinquent by the smell, who will return to it at proper intervals, and thus ultimately ensure the bed being kept clean and dry—a change which the dog will soon learn to appreciate. In order to make this cure of a bad habit effectual, it is not enough that the smell be transferred with the wet straw into the yard, but steps must at the same time be taken to have the bed thoroughly disinfected, so that all smell will be eradicated in the bed and inside of the kennel. To accomplish this, get some crude carbolic acid, pour a little of it into a vessel, and with a wash-brush brush over the wet parts, so that all smell will be taken away. Watch carefully every day, and if the straw should be wet remove it at once, and apply the brush with the carbolic acid.

If this is attended to, it will be found unnecessary to let the dirty straw remain in the yard more than a few days; but the block of wood should stand permanently. It may take a little time, but by attention to these rules it will be found that a cure of the bad habit has been effected.

Before introducing dogs for the first time into a kennel, we would recommend that it be disinfected with carbolic acid, as there is always the risk of its having been tenanted by animals suffering from a contagious disease. "Prevention is better than cure;" and a little judicious and considerate care may save a deal of trouble afterwards. By careful attention to cleanliness, and regularity in feeding with good wholesome diet, it is surprising what healthy animals dogs are. Their bed, which should consist of good clean oat-straw, ought to be lifted and the dust shaken out of it every day. Their food, well-boiled oatmeal or biscuits, and boiled greaves, or soup made of scraps from the kitchen, poured and mixed into it, should be prepared every day, as in warm weather it is apt to get sour. Where there is a large kennel, and horse-flesh available, it is generally utilised, and with it as well, Spratt's or Barr's biscuits; boiled vegetables should be mixed with their food occasionally. Of course they should have a liberal supply of fresh water every day.

Some dogs are shy feeders and are generally cried out by their name to feed before the others are allowed; and it is certainly very pretty to see a num-

ber of dogs standing patiently waiting their name to be cried before they dare commence. We think, however, it is much better to let them all begin to feed at the same time, as dogs have an amount of greed and jealousy, and eat faster beside others than when alone. Order the fat ones and fast eaters away as soon as they have had sufficient. Should any one be a favourite, and by extra work be reduced in condition, do not by any means feed it with bits of lunch, or scraps from the kitchen, as this is apt to cause it to reject its usual food, and if they are not sufficient to maintain it, it will naturally become thinner. It is much better that the scraps should be mixed with its ordinary meal, and thus the evil pointed out will be avoided.

The treatment of dogs in disease is too important a subject to be altogether overlooked. Numerous books have already been written upon this subject, many of them being of a very conflicting character; while to the student of veterinary science, capable of discrimination, there is, doubtless, much in many of these works that is useful and important. At the same time it must be admitted that, among the uninitiated, their tendency is more to confuse and lead astray than otherwise. The treatment of disease and accidents among dogs has been very much improved of late years, which may be largely attributed to the advancement of medical science. Until recently, horses and dogs were tortured with all sorts of coarse treatment applied as remedial measures. Compounds of

acids, mercurials, caustics, and corrosives were largely used, inflicting excruciating suffering on the unhappy animals sought to be cured, but frequently subjected to a lingering death. Medicine is now sparingly given, veterinary surgeons and sportsmen having learned that when the animal economy is deranged, nature will ever feel grateful in being assisted, but will rarely submit to be subjected to the law of force. While there are circumstances when internal medicines may prove advantageous, experience and observation have satisfied us that nature, if left to herself, with rest, warmth, and comfort, will generally throw off disease, when medicine would increase the suffering of the animal, and ultimately prove fatal. We may here mention some of the diseases to which dogs are liable during the shooting season, and endeavour to point out how the causes of said diseases may be removed. Kennel lameness, founder, and rheumatism are often caused by one dog of a quarrelsome disposition being master in the kennel, and constantly growling. Some of the more timid, being afraid, prefer lying on the floor. When one dog is so afraid of another as to lie on the floor, no application of the whip will make it remain on the bed. No sooner has the keeper retired, and quiet been restored, than a growl from the "bully" will cause it again to sneak out and resume its quarters on the floor. So soon as a dog is suspected of doing this, those in charge should occasionally at night quietly visit the kennel with a bull's-eye lantern, and, turning the light into the interior of

the kennel, it would then be seen if any of them were lying out, and if so, have them shifted at once. It is desirable to have a separate bed for each dog, with a partition between them where dogs are quarrelsome.

Some kennels, being paved with brick or flagstones, necessarily require to be washed every day; and as dogs frequently stretch themselves in the sun, their warm bodies thus attract the damp out of the stones—hence rheumatism, stiffness in the joints, and not unfrequently lameness. As a protection from such complaints, we would advise a wooden bench in the kennel enclosure, as the dogs will be sure to spring up and take advantage of it. It should be so constructed as to admit of its being removed at night and on wet days. These attentions may involve a little trouble, but the pleasure to be derived from hunting with a swift, lively dog, instead of one willing but utterly unfit for its work, will more than compensate for any little inconvenience that may have been incurred.

When dogs are observed not to be in a thriving condition they should be closely watched, in order to ascertain whether or not they are suffering from worms; and if such is found to be the case, give an adult pointer or setter a dessert-spoonful of newly ground areca-nut powder, made up with a little melted grease into a bolus. When this is administered, after a long fast, it is usually very effective for tape-worm. If, however, they are of the smaller species, five grains of santonine every alternate day for a week, will generally effect a cure.

Distemper is one of those malignant diseases with which the canine race is afflicted. This malady appears to attack all classes of dogs, and, as a rule, when they are young. There is no disease which we regard with more anxiety, as there are few for which less can be done in the way of medical treatment. All kinds of cures have been prescribed for this dangerous malady; but after much experience, we are satisfied that the best cure is to nurse them well, keep them warm, and let everything like cold or draughts be studiously guarded against. It is a popular notion among the ignorant that administering a quantity of common salt to a dog will cure distemper. The object is to induce the animal to vomit; and when this has been accomplished, and the dog recovers, it is generally attributed to the salt administered. It is difficult to see upon what principle of physiology or medical science either the treatment or the conclusions arrived at can be justified. If distemper was a disease which confined itself to the stomach or bowels something might be said in support of it; but when we consider it to be a malady which has its seat in the blood, and generally affecting the lungs, it must appear to most minds that the administration of salt is simply absurd. It would be well if those who talk of distemper being cured by any uniform specific would keep in view that there is such a thing as nature proving a safe and successful physician. We make this remark because we believe more dogs recover from distemper

without medicine than by the administering of it. It may be accepted as a general rule, that where medicine does no good, the probability is that it will do harm. If in all cases of virulent distemper the dog were put into a comfortable berth, or in cases of extreme exhaustion, when there was an indication of the extremities becoming cold, on a rug or old blanket before a fire — if, at the same time, care were taken to supply it with beef-tea, or occasionally warm milk, to keep up its strength, until the disease had run its course,—it would be found that many dogs would recover that would otherwise die under the administration of medicine.

Another most distressing and infectious disease is that of mange, and which, when once having got into a kennel, is difficult to get rid of. When virulent mange has been allowed to go on unchecked, the dog loses all courage and vitality, and lies on his infected bed a poor and powerless object, and a nucleus of infection. What tends greatly to the aggravation of this malady is, that it is notoriously contagious. As it is a peculiarity in this disease to increase in virulence from day to day until the constitution of the afflicted animal has been thoroughly undermined, it is of the utmost importance that it be speedily and effectively dealt with. Some people continue to hunt their dogs while infected with mange; but it is a short-sighted policy for themselves, and most inconsiderate for their dogs. It is dreadfully annoying to the poor animal, after hunting all

day, to get no rest at night for this horrible disease. Many think it incurable: and it is surprising how many dogs are ordered to be destroyed, even by veterinary surgeons, on being pronounced incurable. It does seem strange that this should be so, as neither the nature of the disease nor the inadequacy of sound resolute treatment warrants the destruction of so many dogs afflicted with mange. We have rarely seen the dog that could not be cured of mange by carefully rubbing it with train-oil, black sulphur, and spirits of tar of about equal parts. In the application of this mixture, the size of the dog and the roughness of its coat must of course fall to be considered; but while care must be taken that it is well rubbed in with the hands, particularly on those affected parts of the animal protected with hair, the naked parts should be tenderly dealt with, not merely to prevent unnecessary pain, but to prevent the skin being blistered. Let the application remain for three or four days, taking care that the dog has plenty of dry straw for a bed, as he will be very cold after the mixture has been applied. After three or four days have expired, the dog should be subjected to a thorough washing, and before returning him to his kennel, it ought to be properly cleaned and disinfected. In ordinary cases this treatment will effect a cure; but should the disease break out in spots here and there, it should be carefully watched, and the affected parts rubbed whenever they are seen. During this course of treatment, three drops of "Fowler's solution of

arsenic," given internally twice each day for a week, will have a salutary effect.

Canker in the ear is another disease a great many dogs suffer from, but is more troublesome than dangerous. The seat of the disease is within the ear, and it is simply cured by lead lotion, "liquor plumbi" and "aqua distil" of equal parts, half-a-teaspoonful being twice or thrice a-day dropped and well worked into the passages of the ear. The treatment here proposed is no experiment, having been approved of by competent authorities and used with much success. Indeed we are not aware of this remedy having failed to effect a cure when honestly applied and persisted in; besides, it has the advantage of being such a cheap commodity that nobody need let their dog suffer. Canker in the ear is easily known by the dog constantly shaking his ears, or scratching them with his hind foot, and if a bad case, moaning the while.

External canker is caused by the internal complaint in the ear, and will disappear under the above remedy when that is cured. But it may be caused by the dog getting a bite on the flap of the ear; and being kept open by the constant shaking of the head, it is frequently set a-bleeding, and consequently is difficult to heal. Zinc lotion, or the lead lotion mentioned above, generally cures this, providing the dog can be kept from shaking his ears and causing the wound to bleed, thus irritating it and never allowing it to heal. The best plan is to get a cap made for the dog's head, so that the ears will be fastened in and

thus prevent them from flapping; or the dog may be tied by the collar so close to a post that it cannot shake its head, and allowed to remain till such time as the smarting caused by the lotion has ceased.

When we consider the sagacity and kindly social habits of the canine race, the hearty and willing service which they render to man in all his varied relations, it is but an act of justice to contribute to their comfort, more especially when overtaken by sickness and disease.

Steady.

CHAPTER IV.

DOG-BREAKING.

The subject of dog-breaking is one upon which a few practical hints are most necessary. There are many dogs which have all the constitutional elements in their nature for being first-class hunters, but which are rendered literally useless from the want of attention to a few important principles in their training. It is not enough that the dog has a first-rate pedigree, respect must also be had to its disposition and temper in training. There are some dogs so timid that everything must be done to coax and encourage them to take an interest in their work, while others are so bold and reckless as to threaten to be utterly un-

manageable. These, again, must be treated with firmness, and every disposition to be self-willed must be checked, although everything like harshness and cruelty must be studiously guarded against. There are few sportsmen who can command the leisure necessary to train their dogs, even if they should have the inclination, and be able to derive much pleasure while watching the development of the instincts of those sagacious and interesting animals. If, however, sport is to be enjoyed, dogs must be trained, no matter by whom; hence the following pages, which are designed to render dog-breaking a comparatively easy task.

In the first place, care must be taken, as we have indicated, to have a good breed, and, if possible, to get the pups as soon as they leave the mother, as it is much easier to teach young dogs obedience before any bad habit has been acquired. The habit of young dogs hunting by themselves is a very common and natural one, but ought to be instantly checked. The habit of going away with other inveterate hunters on their own account, demands still more sharp and effective discipline. The object of these remarks is to show how important it is that, before purchasing young unbroken dogs, care should be taken to see that they have been in proper keeping. Young dogs that have been reared in a town, are a safer investment than those which have been reared and allowed to roam about in the country, more particularly where game abounds. We do not mean to suggest that

puppies should be reared in confinement. There is nothing more mischievous than this, as is proved by the tendency to their becoming bent in the legs, and to an enlargement of their joints. It is of the utmost advantage that young dogs should be allowed to romp about, only let care be taken that they acquire no habit adverse to their efficient training.

It is a mistake to begin to break dogs when too young. We recommend that they should at least be ten or twelve months old, when they have become somewhat well formed, and are full of life and energy. These qualities are indispensable in a dog while either training or hunting, as a spiritless dog, which has no heart or pleasure in its work—it matters not how well bred—is to the sportsman a positive nuisance. The first lesson in training is to teach the dog to walk to heel. This must be done with as little speaking as possible. When the dog shows an inclination to run out and keep before you, as is the habit of shepherds' collies, call him sharply back "to heel"; at the same time, by a sweep of your hand downwards and backwards, beckon him to come in behind. This being done, watch carefully, without appearing to take much notice of him, that he remains in the position indicated. It is important that the same words conveying a distinct meaning be adhered to. Dogs are intelligent animals, and come very soon to understand any form of expression; but when that is changed, and the tone and temper altered, they become confused and bewildered. After a few days' careful

attention to this practice, it will be found that a simple wave of the hand will prove sufficient of itself to bring the dog to heel.

When two or more young dogs are under training, they must, as a matter of course, be taught to go in couples. At first they will, in their own way, protest against this infraction of their liberty. They will jump, pull, and tug with cross purposes. It is not unusual that one will resolutely refuse to move; and in such circumstances they will occasionally worry and fight with one another, each in its turn thinking that its fellow is to blame. Pointer and setter pups frequently take great delight in pointing, and chasing poultry. Some years ago we had a brace of pointer pups which were not contented with hunting, but had succeeded in killing a number of hens. We applied a rather novel cure, which proved most effectual, and would recommend all who may be placed in similar circumstances to adopt it. There was in the hen-house an old bird which was a persistent "clucker," and a positive nuisance by keeping the laying hens out of the nests. We secured the brace of pups with a pair of couples, taking care that the chain was very short. We then tied, with a piece of cord, the old hen to the chain, which by no means relished the company into which she had been involuntarily introduced. She screamed, fluttered with her wings, and extended her legs in struggling to escape. The spectacle was to the humanitarian mind not a very inviting one, and might probably have

brought some one into trouble had an officer of the Society for the Prevention of Cruelty to Animals turned up. The pups concluded that the hen was the cause of their being tortured and tormented; and they in their turn also struggled hard to escape from their unenviable position. After leaving them together for wellnigh half an hour, we liberated the trio. The result was, that the hen was for the time being effectually cured of her clucking propensities, and the pups from poultry-hunting.

After coupling young dogs for a few days, they get accustomed, and reconciled, to their position. Some of them rather seem to enjoy it, and should frequently be taken out for exercise in couples. On no account should dogs ever be subjected to training, even to the extent of calling them "to heel," when coupled together. One of them may be disposed to be obedient, while the other may be self-willed; and by seeking to train dogs in such circumstances, an injury is inflicted upon both.

After having got dogs trained to walk to heel, the next step is to teach them to drop to hand. At first a little difficulty may be experienced, but it is surprising how soon well-bred dogs come to understand this. As soon as the dog learns what is wanted, instant obedience must be insisted on, no matter how distant or how fast the dog may be going; the moment your hand is up, down he should go. Difficult as this may seem, it only requires a little patience to accomplish it. It will be found in

many cases necessary to use a trash-cord in breaking dogs, more especially when they are high-tempered, and show a disposition to be reckless and self-willed. The length and thickness of the cord depend on the boldness or shyness of the dog. Most dogs under training, when taken out of the kennel, will be keen to follow to the young grass-field or to the moor. If the dog is bold in his disposition, put on the cord when you leave home, and let him drag it along. Walk a good distance from the kennel before you begin to work, as, should you commence in a field close by, he may be inclined to run home. To break dogs effectively, only one should be taken out at a time at the outset, and no person should accompany the breaker, as that will have the effect of taking up the dog's attention. At first you may experience difficulty in inducing the dog to leave your heel on entering the field; but as the object is to teach it to drop to hand, this must secure your whole attention. At first, when called upon to drop, the dog will naturally fail to understand the object you have in view. In this event, put your hand gently on the animal, and press him to the ground; then holding up your hand quietly but deliberately, look him in the face and say "Down." While he remains in this attitude, walk a pace or two backwards, still looking him in the face, and holding up your right hand with the whip in it. The dog will still fail to apprehend your meaning, and in all probability will timidly proceed to creep towards you. Here the dog must be carried back to

the original spot. It must then be put in its former attitude, and once more told to "down." As formerly, go slowly backwards for a few yards, still keeping your eye on the dog; and if it show the least inclination to rise, once more say "Down," and crack your whip. If it still persist in coming towards you, carry it once more to its original position. Be careful to keep your temper, and repeat in a slightly sterner tone the word "down." The animal, while frightened at all this manœuvring, will now begin to apprehend in some degree the lesson which you are endeavouring to inculcate. Should it belong to the extremely nervous or somewhat stupid class, and still fail to understand the object you have in view, there is but one course to pursue. Carry it back, if need be, a dozen times before you attempt to use the whip; and if it still persist, it is evidently a high-tempered one. A gentle cut with the whip, saying in a stern voice "Down," will probably have the desired effect; but this is generally unnecessary, as when once or twice carried back, dogs begin to understand what is wanted, and will lie till you go back a few paces. As indicated, you should not go back more than three or four yards at first, and after keeping them down for some time, you may then encourage them to come to you with a wave of the hand, which they are very glad to do; then pat them gently, and get them to understand that you are pleased with what they have done. This is sufficient for one day. Don't try to teach them too much at once, or you will confuse them. This is

most important; and half an hour a-day for a week will make them perfect in dropping to hand at any distance, beginning as already described, and gradually going back little by little. After having got them to drop by simply holding up the hand, and to come by waving on them, try to bring them to you by whistling in a low tone that they can hear and no more. They will probably not come at first, but by a simultaneous wave of the hand, will soon learn to answer the "call," and understand that by whistling you wish them to come to you. Never whistle loud when dogs are near you, as when far away the sound will be so faint they will pay no attention to it. Modulate the sound according to the distance. We have seen it recommended to hold up one hand to teach them one thing, and the other hand another thing. We do not approve of this, as the less complicated the instructions the better.

After a dog in course of training has been got to drop at any distance, and to answer the "call," it should then be made to understand that it is not to move till whistled to or beckoned on, even though the "breaker" should be moving about. This he should study to do, and even to walk right round the dog, always keeping his eye on it. If the dog should offer to move, he must hold up his hand, and make it again sit down. By attention to this, little difficulty will be felt in getting dogs to back. Care must be taken that this lesson is taught them in a bare field where there is no chance of game being found. Up

to this time they should neither have seen nor sniffed game. On introducing dogs to game, try if possible to have them on the moors, as grouse do not run so much as partridges, and if prior to the beginning of August, the young broods will sit close. Take only one young dog at a time. Some keepers break two at once; but as they are almost certain to get jealous of each other, we would recommend that they should have some experience in pointing before being hunted double. It is not impossible that the dog may range a little and point the first time he is among game, but more likely he will not leave the heel, notwithstanding every effort being made to get him to "hold up" (the words generally used to induce him to range). Walk slowly on till you put up birds. When they rise, put the dog down for a short time. Then walk up to the place where they rose, and let him sniff the ground, which, upon doing, he will become quite animated. It is interesting to watch the excitement of a young high-bred dog when for the first time he inhales the scent of game. The whole body trembles and becomes rigid, as if paralysed from the effects of strychnia. The ears hang rather backwards, which gives a sort of half-pleased, half-frightened appearance to the animal. Don't let him remain too long sniffing the place, as it is annoying to see dogs putting off time when the birds are gone. Walk on as before, always enticing him to range. By the time the dog has seen a few coveys of birds rise, and gets leave to sniff the place they have left, he will

soon begin to look for them of his own accord. Most likely he will put up birds when he comes on them at first. With a little practice, however, he will soon begin to wind birds before putting them up, and will naturally point at them. Whenever the least indication of his winding birds is seen, get hold of the cord without letting him know; and if he does not come to a standstill, but keeps on drawing until you are afraid he is going to put them up, stop him with the cord, saying "Toho" in a very sharp tone. Let your manner show great earnestness, which he will not be slow to observe. Keep him still for a few minutes. Some recommend a quarter of an hour; but as we have experienced far more difficulty in keeping dogs free from false points and over-caution in going up to their game, than we ever had with them running in, we think fifteen minutes altogether too long for any practical purpose. If a dog rushes in and puts up the birds, by getting hold of the trash-cord, that can be prevented. But should he, on the contrary, have acquired the habit of being over-steady, it will be found no easy matter afterwards to get him to move up to the game with sufficient celerity.

Of all faults in dogs, we think that of persistently refusing to advance upon the game among the worst, and one of the most difficult to cure. Some keepers, when they find their dog so stanch that he will not move, go in before him, and kick the heather to put up birds. This is a mistaken idea, as the dog is thereby led to understand that he has only to find the birds and

point, and that it is the keeper's duty to kick the heather and flush them. After keeping the dog on the point for a few minutes, as before observed, walk alongside of him, and always let him lead you steadily up to the game. No matter what pace you walk at, the dog should go equally fast. The moment the birds rise, say "Down charge," and make him "down" as before explained, and on no account let him get up without your authority. After beckoning him on with a wave of the hand, let him sniff the place, and hunt all round in case a bird may be left, which not unfrequently occurs. Go on again: it is surprising how soon dogs gradually learn to run from side to side, occasionally looking to the keeper for instructions. Some approve of teaching them to range prior to their seeing game, and instructing them where to go by waving their hands, and whistling when they are at the extreme distance desired. We, however, think it time enough to teach them to range when they know what they are ranging for. Besides, they will be much easier managed when they make their first points near you, than if taught first to range and probably point a hundred yards away. They will commit all sorts of faults when far out, while they would behave quite well if near you. With a little experience a dog will come to range from side to side, with his nose always to the wind, and point steadily when he is certain the birds are before him. When he looks for instructions, the breaker should, by the movement of his body and by facing the way he

wants the dog to hunt, teach him to go as he wishes with as little waving of the arms as possible. On no account interfere so long as the dog is doing right. Some persons are always whistling and waving unnecessarily, consequently the dog gets so accustomed to these movements that he pays no attention.

Up to this time we hope the young dog has not seen a hare; but when first he sees one, not knowing what it is, he will stand and look at it in wonder. While he is standing, whistle or call to the dog by name, and hold up your hand, thus putting him down. Go up to him, and keep him down for some time. When he is again signalled to hunt, care must be taken that he does not get away on the scent of the hare; if he should, whistle or call him off, as it is much more difficult to prevent dogs footing out the scent than chasing by sight. This is a point that cannot be too imperatively insisted upon, as by its neglect many otherwise good dogs have been irretrievably ruined. We have never had any difficulty in stopping dogs from chasing hares, providing they had not seen them or rabbits prior to the time their tuition began. If they should have acquired the habit of chasing, the best plan to adopt is to go to a place where hares are plentiful. Put on a trash-cord—say thirty yards of cord—three or four times the thickness of sheep-net twine. Should a hare rise, put the dog down of course, but try and find one in its seat. Go round about the hare as if going to pass it, and it will squat closer. Have the end of the cord rolled round the

handle of the whip, so as not to hurt the hand. Get as close to the hare as possible, and when it rises and the dog gives chase, call him sternly by name, followed by "War' hare." At first the dog may pay no attention; so when the cord is getting tight, pull in the opposite direction, and the dog will be landed on his back. Pull him towards you, and give him a few sharp cuts with the whip, saying, "War' hare." A few similar lessons may stop the dog from chasing by sight; but it is more difficult to get him to stop putting his nose to the ground and running the scent like a beagle or fox-terrier. Should he be very obstinate and pay no attention to the whistle, we would recommend the use of a puzzle-peg. This is made of wood, and strapped round the dog's neck; it is also fastened round his under jaw, and protrudes about a foot beyond his nose, so that when he attempts to put his nose down it sticks in the ground, and throws him head over heels.

Having accomplished his training thus far, it is now time to kill some birds over the dog, and to teach him to "seek dead." A great many young dogs are afraid of the report of the gun; but it is not difficult to get them reconciled to it, providing they are keen to hunt without it. Should the dog be shy, take some one who is known to be a good shot, as the first birds shot at over a gun-shy dog should certainly be killed. When the dog is quite steady on his point, his manner will tell by this time if he is certain game is before him; and if the scent is good, you can judge what

distance they are off. Assuming they are about twenty yards, let the assistant go round in a circle, and come towards the dog till he is about forty yards off. Let him stand still till the dog goes up to the birds. Whenever they rise, of course the dog will go down. The assistant must fire one shot only: the cartridges should be loaded with wood-powder, as the report is not nearly so loud as when charged with ordinary black powder. If the dog is inclined to run back, keep hold of the rope; put him down for a short time, and stroke and encourage him to go up to the dead bird, saying, "Seek dead," "Dead, dead." Have the assistant instructed to move out of the way whenever he kills the bird, as it is the gun the dog will be afraid of. When he gets near the bird he will point at it: pick it up, show it to the dog, and let him smell it, but take care that he does not bite it. It is very rare that a day's shooting as described does not reconcile shy dogs to the use of the gun. Still, there are those which may continue to be frightened and gun-shy, and may probably run back whenever they get the point, knowing that the gun is coming, or when they see the sportsman approaching. In such cases, it is a good plan to have timid dogs previously taught to back, and to hunt them with another dog that is not afraid, when they will gather courage. The timid dog may be for a time hunted in couples with an old experienced one; but here no fixed rule is applicable, and very much must be left to the good sense of the keeper. Patience and perseverance, and a study of

the dog's temper, are all necessary in such circumstances.

In training dogs to back, it is advisable to take a young dog out with an old one that is not likely to commit any faults. Put them down before they are allowed to begin to hunt, as it is most annoying to see dogs go the moment they are uncoupled. Let them lie a minute or so, then show one with a wave of your hand which way he is wanted to go, keeping the other one still down. Then wave him to go the other way, and always walk straight up wind while giving dogs their first lessons with the game. If possible, get them to gallop on each side of you, crossing in front. Above everything, walk slow, and stand still occasionally till they have quartered the ground properly, then slowly continue to advance. Some persons walk straight ahead, never considering that if the dog take a long turn to the one side, by walking on they miss all the ground on the side opposite. The old experienced dog will most likely get the first point. The moment you see this, get your eye on the young one. If he is a well-bred dog, he will very likely back whenever he sees the other one pointing; but on the other hand, he is as likely to run up to him, and may probably go past him till he gets the wind of the game. Should this be the case, the moment you are aware he sees the one pointing, hold up your hand and cry "Toho." If you get the young dog to stop, go up to the one pointing, always keeping your eye on the former, and seeing that he does not move for-

ward. Then put up the birds, and take care that the dog hunt round about, in case any may be left, which, as we have already remarked, is often the case in the early part of the season. Call upon the young one, and let them both "hold up" as before. In spite of your "toho," and holding up your hand, should the young dog run up to the other one, carry him back to the spot where he should have backed. By a little perseverance and attention to these hints, you will accomplish much towards training your dog to perfection.

Setters.

CHAPTER V.

GUNS, AND HOW TO USE THEM.

As breech-loading guns are now in almost universal use, the muzzle-loader is consequently becoming nearly as obsolete as the old flint-gun; and as almost every gamekeeper is armed with a breech-loader, it will be quite unnecessary to make any remarks upon their construction.

The first consideration for a sportsman is to see that every possible precaution is taken to secure immunity from danger. This, of course, points very directly to the character of the gun or rifle which he uses. In the want of attention to this subject, we discover the cause of many of those accidents which are ever and again occurring, and through which many useful lives have been prematurely sacrificed. The danger is all the greater from this source because inexperienced sportsmen cannot be expected to have a knowledge of the quality of firearms; neither are they alive to the great danger of their being discharged by the most simple accident, and under the most unexpected circumstances. In these times,

when the most worthless weapon can be made to appear to the inexperienced eye as a real *bonâ fide* article, no gentleman, however sharp and acute as a business man, should allow himself to be guided by his own judgment in a purchase upon which his enjoyment and safety so much depend; and no gentleman should go on to a moor, nor indeed anywhere, with a gun, without being impressed with the importance of attending to certain simple rules which are alike essential to his own personal safety and that of his companions. We shall have occasion to refer to some of these rules elsewhere.

It is a mistake to suppose that accidents through the unexpected discharge of firearms are confined to the inexperienced. We have more than once seen guns go off unexpectedly in the hands of some of the best, most cautious, and experienced sportsmen. Some of these cases to which we refer seemed to be most difficult of explanation. In such cases, however, the danger either to the sportsman or his companions is reduced to a minimum, simply because the skilled sportsman has been trained to the rigid observance of certain rules for the safe handling of the weapon he carries. In point of fact, it should be wellnigh impossible, more especially now that muzzle-loaders are out of use, for a gun to go off in the hands of a really careful person in such a way as to injure either himself or others.

In the purchase of guns, let it be assumed as settled that quality is everything. This, of course, implies

that confidence should be reposed in some one who is competent to judge, and not in sale-rooms and public auctions, where guns frequently occupy a prominent place in miscellaneous catalogues. Numbers of guns sold in this manner are sent to the auction-rooms by unprincipled persons, who are quite aware that they have often very serious, and what may prove dangerous, defects, but which are so hidden and disguised, that they cannot be detected except by a thorough tradesman, and that after a careful examination. Cheap guns are generally the most expensive in the long-run, for, besides the danger attending their use, they will not stand the test of tear and wear. Being only made to sell, the material is inferior, badly fitted, and loosely put together: the consequence is, that they soon get into a shaky state, and the owner will find this out to his disappointment and cost. Should, however, the gun be of good material and workmanship, the small amount of damage caused by wear can generally be put right at the cost of a few shillings. No one should be led astray by the name of a good maker being on a gun, as nothing is more common than dealers in second-hand and other guns forging the names of respectable makers on the commonest of factory-made guns—many of those unprincipled persons evading the law by simply changing the Christian name, or altering or omitting part of the address, by which means the uninitiated are apt to be misled. As a rule, the best plan in purchasing a gun is to put yourself in the hands of a respectable gunmaker, who will guar-

antee his workmanship; and when it is kept in view that a first-rate tradesman must necessarily expend several weeks in cutting and fitting the action of a first-class gun out of malleable material, it will be seen how absurd it is to expect either satisfaction or safety in the use of low-priced factory-made guns. It is well known that the breech-action of a first-class fowling-piece cannot be produced at a cost of less than eight or ten pounds—a sum in itself as much as the price of some guns that are new and seemingly well finished. This is a fact too important to be overlooked, as it is calculated to remove a popular fallacy involving serious risk to all who, through thoughtlessness or false economy, may be misled by it. Many of these breech-actions and other fittings of those low-priced factory guns, are made of little better than cast-iron, being made in a mould or stamp, and not having been wrought under the hammer or subjected to the chisel, as is the case in the manufacture of first-class actions.

During the last twenty years there has been quite a revolution in the gunmaking trade. Very many alterations and novelties have been introduced, some of which have been marked improvements, while others have been of a very doubtful character. The introduction of the breech-loading gun has been one of the most remarkable inventions of recent years, and it is certainly of the greatest advantage to the sportsman. Not only is it quicker, more cleanly and agreeable to use, but it is also more convenient,

and what is of much greater importance, it is by no means so liable to be attended with accidents as is the muzzle-loader. The invention of the breech-loader has been followed by various kinds of actions, some of which are exceedingly clumsy, and only require to be seen by an experienced eye to be condemned. Among the several modes of working breech-actions, the "Lefaucheux" well-known lever over-guard has not been superseded for strength and durability. It is certainly not so quick and handy as the snap-action, but it is simpler in construction, and less liable to get out of order. The top-lever snap-action is generally the favourite; and if in connection with the Purdey double bolt, or other first-rate method of locking the barrels, and of good quality and workmanship, it will be found to be durable and trustworthy.

Hammerless guns have only come into general use of late years; and although they have been made from time to time by several gunmakers, yet apparently, in consequence of the difficulty long experienced in procuring suitable cartridge-cases, they have failed to establish themselves until quite recently. For some time the gunmakers had difficulty in preventing the gas from the cartridge-cap penetrating into the locks — and this was especially the case where the locks were pitched directly behind the strikers; but some of the makers have now been enabled by experience to overcome this defect. There are many different kinds of hammerless actions now

being presented to the notice of sportsmen, and naturally every gunmaker states his own to be the best, and readily points out the advantages of guns of his own make. Among the most successful actions are those fitted with the Anson and Deeley locks, and top lever, the locks of which are placed underneath the barrels, and are not nearly so liable to corrosion. Indeed we have examined a pair of those guns that have been in use for two seasons, and the locks were as clean and bright as if they had not been used at all. Hammerless guns made on the Anson and Deeley principle are generally very easily worked, for the long leverage of the barrels is utilised in cocking the locks; whereas, in some of the guns now made, the cocking is done by the action lever, which requires more power to work it, as it bears the entire weight of the lock mainspring. Some of the hammerless guns now made are marvels of ingenuity; but the fact of so many different gunmakers striving to have a separate and distinct action of their own, has in our opinion resulted in some of the lately invented guns being over-elaborated, the mechanism being so intricate that it is very liable to get out of order.

Before proceeding further, perhaps it may be well to make a few remarks on the handling of the various kinds of guns; and although muzzle-loaders are now almost extinct, yet this chapter would not be complete were we to omit them altogether. When these are double-barrelled, there is a very special danger arising from the manner in which the gun is

being loaded when one barrel only has been discharged. In the event of only one shot being fired, the first thing to be attended to is to see that the hammer of the loaded barrel is let down nearly to touch the cap, and then be drawn up to half-cock. This mode of doing so it is important to observe, as it is most dangerous to allow the hammer to go down so far only as to reach the half bend of the tumbler. From the construction in the mechanism of the lock, it is designed that the scear should fit into the tumbler by pulling up the hammer; hence the necessity of attending to the rule indicated. The hammer must be let down past the half-cock, and then be drawn back into it. This remark has a very special application to rifles which are generally made with a very light pull not exceeding two or three pounds, and on the tumbler of which a detant is attached, in order to carry the scear over the half-cock. This is of the utmost consequence, as there is a tendency for the scear to stop at half-cock. By the hammer being put down to half-cock in the manner we have objected to, or by altogether omitting to put it down to half-cock, many fatal accidents have occurred.

A few years ago, on the 12th of August, on a moor in Selkirkshire, a most steady and active keeper fell a victim to the unintentional neglect of the precaution here insisted upon. He had fired at an old cock-grouse at a somewhat distant range, and although struck, it seemed too far distant to justify the discharge of the second barrel. For a few seconds he

kept his eye on the bird, and then proceeded to reload the empty barrel, forgetful that he had not—as was his uniform rule—put down the hammer of the loaded barrel to half-cock. While in the act of charging the gun, it unexpectedly, and in the absence of any special explanation, went off. The charge entered his head, and, as may be anticipated, killed him on the spot. This is, unfortunately, no solitary instance, but it is sufficient for our present purpose, and shows how important it is that this rule should be rigidly adhered to.

An erroneous notion prevails among the uninitiated that it is safer for the hammer to be resting on the cap than at half-cock. This also applies to breech-loading guns that have not been fitted with rebounding locks. It is a dangerous practice, as the weight of the spring pressing on the cap or action-striker might cause it to go off, if the gun should happen to fall, or get a knock in crossing a wall, or by otherwise coming in contact with a stone.

The pin-cartridge gun is now very little used, and many sportsmen who have not discarded it have very wisely had it altered to a central-fire action. The pin-fire was no doubt a very great improvement on the muzzle-loader; but the central-fire gun is much more easily handled, and cleaner, while the cartridges are more convenient and safe.

It is of the utmost importance to have a gun with first-class locks, for when inferior, they are liable to get out of order, and probably at the most incon-

venient time, when the gun is being used in the field.

First-rate gun-locks have a smooth and lively action, but it is a mistake to imagine that their quality can be judged by pulling up and letting down the hammers. Many are also misled by fancying that a loud click is a sign of good locks, whereas it is generally the sign of their being inferior, and loosely fitted. A great advantage in the modern gun is the rebounding lock, especially when game is plentiful, as when the sportsman uses a second gun, he necessarily requires a loader. As the rebounding lock remains at half-cock, until cocked by the sportsman previous to firing, there is no danger of the gun going off accidentally in the hands of any inexperienced loader, who has no business to touch either the hammers or the triggers. Small-bores have become very fashionable; but though the twenty-bore is very light and handy, and makes capital results on the target, we do not approve of it, unless the sportsman has other guns, as, in shooting wild-fowl, roe-deer, or other larger game, they will not admit of a sufficient quantity of big shot. In fact they are not intended to be used with any shot larger than No. 5 or No. 6.

The merits of the choke-bore gun have been very much overrated. For wild-fowl shooting, or wild game, it certainly is an advantage; but for ordinary partridge or cover shooting, unless very late in the season, it is quite unsuitable. Most game, early in the season, being killed at a short distance with the

first barrel, unless the sportsman be a dead shot, he is very apt to miss with the choke-bore, from its close shooting; and if he holds fair on the bird, it is almost cut to pieces, and rendered useless. There can be no doubt that the boring of a gun has very much to do with the character of its shooting; but at the same time, the merits and demerits of the style and manner of boring are very much exaggerated. It is no unusual thing for a certain class of sportsmen to admire, and almost covet, the gun of their companion on the same beat, while positively disgusted with the results of their own, notwithstanding that it may be much better in its shooting qualities than the one they so much admire. There is nothing more common than to find a gentleman who may be bilious and out of sorts, scratching and wounding half-a-dozen birds for every one he kills dead, forgetful that on the previous night he had been "dining out," or sitting up late, while ever ready to blame his gun. The true explanation for many "bad-shooting guns" is to be found, not in the style of the bore, but in the want of steadiness in the aim on the part of the sportsman. This to some of our readers may not be altogether an acceptable explanation, but, satisfied as we are of its accuracy, we would fail in the object we have in view were we to withhold it.

The points to be looked at in a gun are its weight, bend, length of stock, and balance. Many sportsmen are now getting their guns made very light. This in hammerless guns can, to a considerable extent, be

accomplished by having the superfluous metal in the action cut away and the stock hollowed out. It is desirable that the stock naturally suits the sportsman, otherwise he shoots at a great disadvantage. Any one shooting with a gun too long in the stock, will find that it does not mount easily to the shoulder, sometimes catching on the inside of the arm, and causing a good deal of pain if fired in that position. If too short, the shooter suffers from recoil. If too much bent in the stock, he is almost certain for a considerable time to shoot below his game. It is as well, however, that the gun should be tolerably straight for the sportsman, as the shot is always falling; and in many cases, when a bird has been missed, he has fired too low, and of course this is particularly the case when firing at long range. It is also desirable that a gun be well balanced and not heavy at the muzzle, as it will require a continuous effort to sustain it at the eye, and will have a constant tendency to drop at the muzzle and shoot low.

After a young sportsman has acquired a gun, there are certain rules which ought to be scrupulously attended to, if accidents are to be avoided. These rules, it will be observed, are exceedingly simple; but it is by reason of their very simplicity that they are frequently disregarded. To most minds it would seem superfluous to recommend that every person using a gun should on no consideration allow it to be pointed towards any one, even when it is understood to be empty. Common-sense one would expect

to be sufficient to secure the observance of this simple rule; but how often are we reminded by newspaper paragraphs of fatal accidents occurring under the most distressing circumstances, which it is almost an abuse of terms to characterise as accidents! If, by calling attention to the importance of this rule, we could secure its universal observance, we should thereby prevent 75 per cent of accidental deaths which result from the reckless use of firearms.

It is the duty of every sportsman to be as mindful of the safety of his companions as himself, and care should therefore be taken to keep the muzzle of the gun upwards. A very general, but certainly very unsafe, practice prevails among those in the rear of a shooting-party, of carrying their guns under their arm, with the muzzle leaning forward and downward. When we consider that guns so carried are often full-cock, and the trigger subjected to the contingency of being disturbed by the sleeve of the coat through a stumble in walking, the danger of accidents must be evident. We have occasionally known accidents to arise in this way, much to the surprise of the person carrying the gun and those by whom he was accompanied.

In the autumn of 1877, an accident of this nature occurred on Tweedside, where one of a shooting-party got his heel shattered, and in spite of the best medical advice, died in a few hours. We might give other illustrations of accidents arising from the foolish practice animadverted upon, which cannot be too generally deprecated. No person using a gun (even

those thoroughly accustomed to the use of firearms) should ever venture to force his way through a hedge, or go over a wall or wire-fence, without making it a never-failing practice to see that before doing so his gun be put down to half-cock. It is surprising how many persons will persist in neglecting this duty, notwithstanding the numerous accidents that are from time to time occurring from inattention to this precaution.

Guns are frequently discharged accidentally by inexperienced persons when uncocking, by pulling the wrong trigger. Before any young or inexperienced person is allowed to handle a loaded gun, he should have considerable practice in cocking and uncocking an empty one.

The importance of these hints cannot be overestimated, involving as they do not only immunity from accidents, but the preservation of life. It is the obvious and imperative duty of all true sportsmen to inculcate their observance upon all who appreciate the pleasure to be derived from field-sports.

It is a matter of no small consequence to the sportsman that his gun should be kept clean internally as well as externally. Breech-loading guns, though much easier cleaned than muzzle-loaders (no washing being necessary), require great attention, as they are more susceptible of corrosion, from the detonating powder of the cap getting into the barrel, than the muzzle-loader, the gunpowder in the latter being ignited in the nipple. Gas from the fulminating powder con-

tained in the percussion-caps is very corrosive in its nature, and if not properly cleaned off immediately after use, honeycombs the barrels in a short time. The inside of the barrels should be wiped with tow till the black sediment is thoroughly cleaned out, and then oiled. Animal oil is preferable to vegetable, though mineral oil is now superseding both.

If a gun be used on a wet day, the probability is, however close-fitting the locks may appear, that damp may find its way by means of the triggers and scear-holes into the mechanism of the locks. It is therefore desirable that when a suspicion of this exists, the locks should be taken off and wiped with an oily cloth, care being taken that too much oil is not used, as the effect of this would be to rot the wood and clog the triggers and plates, which is often a medium of danger when the scear-springs of locks are light.

These remarks do not so much apply to the hammerless gun, as the taking down of the locks is more difficult, and as few sportsmen or keepers care to take them down and put them up again, owing principally to their not thoroughly understanding their construction, so that they are generally sent to a gunmaker to be cleaned. This shows how necessary it is that extra precautions should be taken to keep the locks of hammerless guns from getting wet.

The cleaning of the outside of the barrels and mountings is a very simple matter. They should be wiped clean and free from damp, then carefully oiled.

It is advisable, when wiping out the barrels, always to put the muzzle on a piece of paper or cloth, as the suction when drawing up the rod is liable to draw in small particles of sand or grit, which may injure them. Everything like the use of sand or emery should be avoided in the cleaning of guns. It is almost unnecessary to add, that when such expedients are resorted to, it is a clear indication that the gun has been previously neglected. This remark is of very special importance in its application to the breech and that part of the barrels, as the use of sand or emery has a tendency to affect the close fit of the barrels into the breech, and, as the result, facilities are presented for an escape of gas, which is most disagreeable to the sportsman, and which, sooner or later, will impair the shooting and safety of the gun.

CHAPTER VI.

SPORTSMAN'S OUTFIT.

It is of the utmost importance to the sportsman that he should be properly attired. Under a burning sun in August the perspiration generally flows freely, which is apt to make him dispense with his underclothing. On no account, however, should it be cast off, as in mountainous districts the weather is variable, and though hot one day, it may be cold the next. Far better have the outer garments made lighter, and the material of a light colour, which repels the heat, whereas dark cloth attracts it. It is advisable that flannel should always be worn next the body, as it is more porous than linen, and allows the perspiration to pass through without giving such a chill to the skin.

We direct particular attention to shooting-boots. It is of very great importance that they should be worn and well seasoned before being put on for the moors. Many a good day's sport and enjoyment has been destroyed, and the sportsman subjected to positive torment, by a pair of new boots. How frequently

has he felt his heels irritated, his toes cramped together, and what is still more frequently the case, had both blistered, or the skin literally rubbed off, by the irritation or friction of new boots! When the boots are felt to press upon the heels, and cause pain, they should at once be discarded for the time, and an old pair resorted to. Many gentlemen are indifferent to the inconvenience, and persist in putting in the day without a change of boots. In such cases, they reach the lodge footsore and lame; and it is only after their boots have been taken off, and the stocking found not unfrequently clinging to the skin, that they become alive to the amount of mischief which has been incurred. In such circumstances, it is more than probable that the sportsman may be unable to go out for a day or two; indeed we have known cases where the first fortnight's shooting has been lost from this cause. None but those who have had the skin rubbed off their heels by new boots, and the stocking allowed to adhere to the wound, can understand how difficult it is to remedy the mischief here referred to. Ordinary sticking-plaster is generally used in such circumstances, but the difficulty is to get it to adhere to the skin amid much walking, more especially when the feet are liable to get wet.

Trying as it may be for a keen sportsman to keep the house for a couple of days at the beginning of the season, it is the safest and surest cure for skinned heels. The cure may be facilitated by measures

being adopted, as soon as discovered, to remove the inflammation. To those who are impatient and who *must be out*, we would recommend that the inside of the stocking be lined opposite the wound with a few inches of linen cloth, doubled, and well saturated with lard, and a pair of old boots used, after having had a piece cut out of the uppers opposite the part injured. It seems almost unnecessary to suggest that, in order to minimise the inconvenience, care should be taken to have the part where cut out, tapered away by a sharp knife, and made as smooth and pliable as possible. At the same time, "prevention is better than cure;" and hence the necessity of studiously guarding against going to the moors with boots that have not gradually, and for a considerable time, been used in ordinary circumstances. This, to the uninitiated, may appear a matter of minor importance; but to those who wish to enjoy shooting, more especially in the moorland and hilly districts, it cannot be overestimated.

One word as to the treatment of sportsmen's boots. After long experience, and having heard numerous statements to the contrary, we are satisfied that there is no leather now manufactured in this country capable at first of resisting damp after being exposed to a day's continuous walking in the wet heather and morasses of Scotland. We believe that matters in this respect are worse than they were many years ago. Whether it arises from the modern desire to have a speedy return for money invested, that leather is much less

able to resist damp than in former times, we are not prepared to say. This, however, cannot be denied, that leather, instead of lying for several years in the tan-pits, immured in oak-bark, is now being largely tanned with larch-bark and chemicals, so that a return is now obtained for the capital invested in one-third of the time in which it was formerly obtained.

In these circumstances it is desirable to adopt such measures as will secure dry feet for the sportsman as far as practicable. During the months of August and September, it may not be of such moment to avoid getting the feet wet. In many cases, more especially in hot weather, this is regarded by some as rather a luxury. If the sportsman keeps always walking, and takes care to have his wet clothes and wet boots changed immediately on reaching the lodge, there is little danger of any bad results. It is, however, vastly otherwise when the days begin to shorten and the thermometer to fall. Many evil results are ever occurring, as the season advances, from parties getting wet, more especially their feet. In view of this consideration, and for the purpose of making the boots as wellnigh waterproof as possible, we would recommend that a dressing composed of one part of resin, two of tallow, and two of bee's-wax, be well rubbed in by the fire, after they have been slowly but thoroughly dried.

A general opinion prevails that sportsmen can be fully protected from exposure to wet by having recourse to waterproofs; hence we find large numbers

of Continental and English sportsmen who come north for the first time, largely supplied with air-tight and waterproof clothing. Those who have had experience in grouse-shooting will agree with us in thinking that this is a great mistake. Waterproof boots, and leggings reaching no higher than the knee, are invaluable, but the idea of a sportsman traversing our Highland moorlands enveloped in waterproof clothing is to be deprecated. Altogether, apart from the discomfort necessarily experienced, it is most prejudicial to health, while it will be found to be no protection for the person from wet. Should the rain fail to penetrate the waterproof, it will be found that in the exercise of walking the sportsman will become drenched with perspiration. By means of the waterproof the sweat is prevented from evaporating, and he will thus become as thoroughly saturated as if his tweed suit had been soaked by the outer elements. If after such a bath as we have described the sportsman has to cease walking, and drive home several miles, the consequences may prove somewhat serious. It is in this way that the sweat is again forced back upon the pores of the body; and although the effects may not be felt to be injurious at the time, there is a danger of an attack of rheumatism being sooner or later experienced. When the sportsman has made up his mind to go out upon a wet day, he will find it safer, better, and more agreeable every way, to go out in a good thick tweed suit, with his mind made up to undergo a thorough wetting, taking care to strip him-

self to the skin immediately on reaching the lodge. As an invariable rule, sportsmen, after a hard day on the moors, should, on reaching the lodge, at once undress and get into a bath; and after rubbing themselves with a rough towel, and putting on dry underclothing, they will sit down to dinner as fresh and comfortable as if they had not walked more than a few miles.

A Highland Loch.

CHAPTER VII.

TROUT-FISHING.

Sport for the season in this country begins with angling. The time when it commences is largely dependent upon the mildness or severity of the weather. If the winter is open and free from frost

and snow, trout may be caught with bait during the entire year. In 1884, when the winter and spring were unusually mild, several trout were caught with the fly in Lochleven as early as February. Trout-fishing so soon is by no means enjoyable, while as a general rule the trout taken are lank and in poor condition.

No species of sport in recent times has become more popular than angling. Formerly it was confined almost exclusively to those who had been reared in the country, and who during their early years had become attached to the use of the rod. But the rapidity and ease with which the inhabitants of large towns are now transferred by railways to the rivers, lochs, and mountain-streams, has tended greatly to increase the number of the followers of Izaak Walton.

As patience, perseverance, and large experience are necessary to ordinary success in the "gentle art," it may reasonably be expected that disappointment will to a certain extent attend beginners. In addition to the qualities above indicated, a considerable amount of skill, and some knowledge of the instincts and habits of the finny tribe, are indispensable to anything like uniform success. Indeed all these qualities combined constitute no guarantee that a good basket will be always obtained. There are so many conditions necessary to secure a good day's fishing, that it is rare for the angler to find a combination of these favourable for his purpose. There are the state of the water, the direction and state of the wind, the temperature,

the amount of sunshine, and the appearance of the sky, all of which exercise an important influence on the fortunes of the fisherman. Still, trout are so fastidious as not unfrequently to resist the most tempting lure, even amid the favourable realisation of all other conditions. There are times when the fish feed at the bottom of deep pools and streams, and other times when they are found floating half-way between the bottom and the surface, on the outlook for food from above. This will probably explain why fish take better at one season than another, and why, as a rule, there are certain times of the day, when the "take" is on, that anglers realise success. It will also be found that there are times when trout can be taken only with bait; while at other times, in the same places, they can readily be caught with fly. It is a peculiarity common to all anglers, that notwithstanding the large measure of disappointment with which angling is associated, even the most unsuccessful continue to indulge in it with hopeful anticipation that the future will prove more successful than the past. There is something in the healthful exercise and in the change of scenery which makes a day's ramble among the mountains or by the river-side a joy to be remembered—all the more so if the angler be a lover of nature, and able to appreciate the bracing air of the country, which forms a happy contrast with the continuous din and smoky atmosphere of the large centres of population.

Under any circumstances the rod and line is a most

healthful and enjoyable pastime for those engaged in professional or commercial life; it is all the more so when rewarded by a good basket of fine yellow trout. With the view of contributing to this result, we now submit a few hints regarding the habits of the fish, and the means to be adopted for their capture by the rod and line. After spawning in October or November, trout are sluggish and inactive, and prefer to keep near the bottom in still water, where they lie at the side of turfs and stones. At this time they will not look at flies, but a good basket may readily be got with bait, though fishing of any kind should be discouraged till the fish get into condition.

In England there is an annual close-time for trout and char, and no trout or char can be sold in England and Wales between the 2d of October and the 1st of February. In Ireland there is also a close season for trout. There ought likewise, it seems to us, to be one in Scotland; and the best time would probably be from 15th October to 1st March.

Though now illegal, many poachers and pot-hunting fishermen use at this time salmon-roe as a bait, which generally proves very deadly. On the Tweed and its tributaries incalculable mischief is done to the prospects of the legitimate angler by a class of idle fellows known as "professional anglers," by the use of preserved salmon-roe, by them designated "cheese." It is a usual thing to find a party of such persons fishing in close proximity to each other, having one general interest in the day's work. While this "sport"

is going on, one of the party is placed a little farther up, and another some way down the river, who generally use worms as bait, and act as spies for the protection of the rest; and should a river-watcher appear in sight, the signal is given, when a worm is speedily substituted for the "cheese," and detection of course becomes difficult.

In the early spring of 1881, we visited the Whitadder on an angling excursion. The day was exceedingly cold, with one of those dry piercing east winds so general at that season. On wending our way up the banks of the river, we discovered a somewhat suspicious-looking individual fishing, apparently with the worm, in a splendid pool immediately above Hutton Bridge. After walking up the side of the river for several miles, we put up our rod and fished downwards. Before we again reached the bridge it was wellnigh dusk, and to our surprise we found there the same individual we had observed in the forenoon, standing on the identical spot; and so eagerly and successfully was he prosecuting his deadly work, that we were able to approach within some half-a-dozen yards of him undiscovered. His basket stood upon the grassy bank by his side, full to overflowing with several dozen of splendid yellow trout, and a couple of sea-trout kelts. Being fully aware that his stationary position and his remarkable success could only be accounted for by his using salmon-roe as a bait, we remarked that "the trout were taking much better with the roe than they were doing with the

fly." He growled assent, evidently indicating that he was aware we clearly apprehended the situation; and recognising that our remarks were made in no unfriendly spirit, he freely entered into conversation with us on the subject. We then learned that, before putting up his rod, he broke down about a couple of ounces of preserved roe, and threw it into the top of the pool, a few yards below where the action of the current had ceased to be perceptible. The effect of this was to attract the fish towards that spot, near to which he had been casting his line for several hours in succession, with the merciless result which we have mentioned.

It is unnecessary to add that this mode of capturing fish—for it would be a misuse of language to call it angling—is as destructive as netting, and ought to be put down by the combined action of angling associations and statute law. Not only is it destructive to the whole breed of trout, but it is also detrimental to salmon, as it is an encouragement to poach them for the sake of their roe.

The Whitadder has been long and justly famed for the splendid trout-fishing which it affords. There are few rivers where the trout are more uniformly of good size, while they are peculiarly active and strong on the hook. In April large baskets of yellow trout are frequently obtained, while it is no unusual thing to have two or three good runs with sea-trout kelts of considerable size. In autumn the yellow trout also take freely, while clean, new-run

sea-trout are often caught even while fishing with the small fly. Like all good streams that are free and accessible, the Whitadder is no longer the anglers' paradise of former years. Having acquired a deservedly high reputation, it has become notoriously the "anglers' resort." As the pleasures of trout-fishing are greatly enhanced not merely by the number of fish, but by the quiet and solitude which prevail, it is unnecessary to add, that in so far as practical results are concerned, sport on the Whitadder is sadly degenerated. There are few things more disheartening to an angler than to have his anticipations of a day's enjoyment and a good basket frustrated by finding, on reaching the river, that every pool and stream has been whipped by a host of competitors who have preceded him. We had our full share of this on a late visit to the river in question. About the middle of April 1884 we took the afternoon train for Berwick, having arranged to spend the evening with a friend at Paxton. No sooner had we left the station than we met two anglers who had just returned from a fishing excursion on this famous stream. Curiosity led us to take a note of the number pushing their way into the town with their rod and creel; and ere we had crossed the bridge about half a mile above the junction of the Whitadder with the Tweed, we had passed no fewer than thirty-one, all of whom had spent the day upon this much frequented river. On remarking to our host the dreary prospect before us on the morrow, we were encouraged by the statement

that it had been a holiday at Berwick, and that there would be fewer anglers out next day. Shortly after breakfast we were able to commence operations, and were successful, so long as the river was quiet, in catching a few splendid trout; but as the day advanced, small contingents of anglers were being attracted to the several promising pools and streams. We pushed our way upwards in the hope of being able to secure a quiet cast on a favourite stream about half a mile below Allanton Bridge. On approaching the stream in question, we found it occupied by no fewer than seven anglers, all wading in the river. Casting a wistful eye to the pool above, we descried other three anglers similarly engaged, when, with mingled feelings of disgust and despair, we put up our rod and pushed on to catch the afternoon train at Chirnside, where we found several of our piscatorial brethren on the platform. It will not surprise any one to learn that they were all more loud in their expressions of disappointment than in boasting of the large baskets they had secured.

As the season advances and the weather becomes milder, flies begin to appear, and the trout gather strength, and begin to rise at them; and as they increase in vigour, they become able to resist the current, and are to be found in moderate streams, where they take the flies readily. Fly-fishing can also be prosecuted with some measure of success in streams where the water is small, but more especially when it is falling in after a flood. Heavy baskets may be ex-

pected when it is changing from the colour of porter to that of ale. The flies used in such circumstances, or when there is a high wind and the water rough, should be somewhat large, and used smaller as the water becomes clear and as the season advances. Anglers cannot be ignorant of the kind of flies to use if they pay attention to the natural ones, which may be seen floating down the stream, and which they will observe to be greedily caught by the trout. The most deadly flies in April are the blae wing and March-brown or harelug and woodcock wing, and prominently the "red hackle." This is a fly which may be used at all seasons, and will be found to prove very deadly when the water is in the state we have described. It is important, when angling with the fly for trout, to guard against having the gut-line or cast too thick—indeed it cannot be too thin, only it must be of good quality, and *gently treated.* Trout require no spectacles, and are quick to detect the white line in smooth clear water, even when cast by the most subtle expert, more especially in those rivers which are being daily fished by those whose somewhat clumsy devices are too patent to the trout to admit of their being imposed upon. A vigilant eye should ever be kept on the line in the direction of the flies, so that the instant the trout rises the angler should be ready by a prompt, but by no means violent turn of the wrist, to strike the hook into the mouth of the unsuspecting victim.

Trout rarely rise freely to the fly when the water is rising; but we would remind bait-fishers that then is

specially their opportunity. From the fact that the rising water frequently brings down with it lots of worms, which have been washed out from the banks and water-courses above the usual bed of the stream, the trout are on the outlook for them, and thus become an easy prey to the angler.

While spending a few days at Callander in the summer of 1879, we had a pleasing illustration of this. We had arranged one evening to set out for a day's fly-fishing on the following morning to one of the adjoining lakes, in company with a clerical gentleman who was a keen and expert angler. To our disgust, on coming down to breakfast we found one of those terrible days of rain, of which no one can have any conception who has never been in the Highlands of Scotland. The wet fell, not in showers, but in sheets, as if we were about to be visited by a second deluge. After repeatedly tapping the glass, which continued falling, our confinement in the Dreadnought Hotel became not only irksome but intolerable. Twelve o'clock passed, and no signs of the rain abating. We, however, coaxed one of the post-boys in the stable-yard to go out and dig up a quantity of worms for bait. We next induced him to yoke a horse into a dogcart; and after having protected ourselves with waterproof from head to foot, we set out for Loch Lubnaig. After a drive of some five or six miles, the rain continuing to fall in torrents, we reached one of those mountain-streams which come rushing down the gully with resistless and ever-increasing

power, washing away its embankments, and carrying turf and stones before its impetuous current. At the point where it flowed into the dark lake, the water had become brown over an area of fifty or sixty yards from the mouth of the burn; and putting up our rods, we took our stand upon the shingly beach, one on each side, and commenced operations. No sooner had we cast our line into the lake than it was tightened, the result of our bait being swallowed by a trout, large numbers of which had been attracted to the spot by natural instinct, to feast upon the worms which were being washed out from amid the turfs and stones disturbed by the flood. We succeeded in dragging out one fine yellow trout after another in rapid succession, so that in little more than an hour and a half, we had two of the finest baskets of trout, that any angler might have been proud of. As it is not often the fisher falls in with such luck, we were reluctant to leave such a scene of piscatorial bliss. But as the storm continued, and as our horse stood with the machine upon the exposed road drenched and shivering, the driver lost all temper and patience; and while denouncing us as madmen in terms more expressive than polite, we felt constrained to give up one of the most successful trout-fishing experiments we ever participated in.

Reverting again to river-fishing, there is a stage, while the flood is rising, or after it has begun to subside, when minnows may be used with success as a bait. Except where long casting is necessary,

we always prefer natural to phantom minnows. Many have a different opinion, and prefer the phantom to the natural; but for our part, we have always had more success with the natural bait, especially when trolling.

Before starting upon a fishing expedition, it is most essential to take care that you have all your tackle and needful appliances with you. It is a serious matter, and certainly most irritating, to find, after walking several miles, when your rod is being put up, that you have left your book or reel behind, as is not unfrequently the case. It is no less necessary that the angler, before beginning to fish, should carefully examine his flies and gut, in order to see that they are sufficiently strong and in good condition; for if they have been frequently used, the hooks are apt to rust, and the gut to get spoiled where it joins the hook. There are more fish lost, and more vexation caused to the angler, by the neglect of this simple precaution, than by anything else, as it is generally the best trout that are lost when the tackle gives way. Whenever gut close to the end of the hook bends hingeways, on no consideration hesitate to cast it aside as useless, however attractive and valuable the hook may otherwise appear.

When trout escape after being hooked by the tongue or throat, they are not likely to rise again for some time; but there are cases if, hooked by the side of the mouth, or the front of the upper or lower

jaw, when they will rise immediately after, as if nothing had occurred.

In the spring of 1881, when enjoying a day's angling with a friend on the Orchy, a remarkable illustration of this came under our personal observation. On this occasion the only fly that seemed to attract the attention of the trout was a somewhat large red hackle. Those who have angled in this stream will doubtless be aware that trout are by no means numerous; but as a compensation for this, they are generally strong and lively, and are not unfrequently found up to a pound and a half and two pounds and a half in weight. On the occasion referred to, we were fishing in the pool under Orchy Bridge, when our fellow-angler succeeded in hooking one of considerable size, which—as is not unusual in that river—ran towards the bank, when the gut gave way, and the fish escaped, taking with it his "fine red hackle." He was much annoyed at his loss, as it seemed the only fly that was taking; but opening his book, he picked out the nearest in size and colour to the lost one, put it on, and recommenced fishing. The very first cast he hooked a trout, which, after landing, incredible as it may seem, had in its mouth the identical fly he had lost only a few minutes before.

Another incident came under our notice when fishing in the Spey, convincing us that fish do not suffer from being hooked. A trout rose to our fly, but missed it. On casting over it again, it was

secured, and on landing it and taking out the hook, we saw a coarse hair-line sticking out of its mouth. Opening it, we found a large bait-hook attached to the line sticking in the lower part of the stomach. How long it had been there it is impossible to say, but it seemed to give it no inconvenience, as the trout, which weighed half a pound, was in good condition, and not in the least wasted.

It is surprising what occasionally finds its way into the stomach of the trout. In April 1884, "a sea-trout weighing one and three-quarter pounds was killed in Lundy Burn near Tayport; and on being opened, there was found a bolt of iron embedded in its stomach. The bolt, which is now in the possession of Dr Blair, Tayport, for the inspection of the curious, is almost devoid of rust. It is half an inch in diameter, and one and three-quarter inches in length, and weighs one and a half ounces."[1]

It is desirable to have the flies at a considerable distance from each other on the cast: in no case, even with small flies, should the distance be less than two feet; and when the flies are large, three feet or more will be found a suitable arrangement. When the river permits, we advise that anglers should throw a long line, as it is a noticeable fact that, with few exceptions, all large trout are hooked by a long cast, and the instant the fly touches the water. It will thus be seen how necessary it is that the flies should be cast so as to fall gently like a flake of snow upon

[1] Edinburgh Evening News, April 8, 1884.

the water. It must be kept in mind that of all fish trout are most watchful and quick in vision. It is owing to this being overlooked that we find such a want of success on the part of many anglers who possess all the enthusiasm and perseverance which constitute the essential characteristics of those who prosecute the "gentle art." A casting-line without loops, except that at the end next the reel-line, and having the flies tied on so as to form parts of the cast, is the best. It falls more lightly on the water, and causes less disturbance, than a line to which the flies are attached by loops. This same oversight also explains why some who have acquired a fair degree of proficiency often fail to catch with the fly the large fish, although they occasionally manage to obtain a good basket of small and ordinary-sized ones. When the angler is able to throw a long line and let the fly fall gently upon the water, he will often be able to reach the place where large trout are lying when the less expert is unable to do so, and thus the best chances are often lost to him. While the advantages of a long cast are thus apparent, it must also be pointed out that the trout are not, as a rule, so securely hooked as when a moderate length of cast is used. In point of fact, the shorter the cast, the more likely is the trout to be firmly hooked and the more easily landed.

There is, however, another essential condition to be observed, which is, that the angler, although able to throw a sufficient length of line, must take care to

keep himself thoroughly out of sight. In order to ensure success, the angler must be able not only to conceal himself, but to conceal his purpose; and this remark, be it noticed, must apply to all who aspire to take fish of any kind by rod and line, no matter whether it be by the use of bait or fly. Inattention to this *all-important* rule explains, more than aught else, why many will fish for hours, and sometimes for days, with the most meagre results. The reason is obvious. There are, as already indicated, perhaps no creatures more timid and thoroughly alive to danger than the denizens of our rivers and mountain-tributaries. We recollect an interesting illustration of this which came under our observation while grouse-shooting in the month of August. We sat down to enjoy our lunch on the bank of a small mountain-stream where there chanced to be one of those little pools with water clear as amber. We, without any object, cast a very small piece of our lunch into the pool, when, quick as lightning, a moderately-sized trout darted from beneath a stone in the middle of the pool towards the small crumb of fresh meat. Instantly we were discovered with the dogs panting upon the bank, and in the twinkling of an eye it was again safely beneath its stony refuge. Curiosity prompted us to have the dogs withdrawn from the bank; and changing our position, we remained in concealment for wellnigh an hour, and were surprised that no second attempt was made by the scared trout to secure the coveted morsel.

It is in circumstances like the above that urchins,

as if by common instinct, have been tempted to cast off their jackets, and rolling up their sleeves, betake themselves to the process of "guddling," by which the trout are forcibly taken from beneath the stones and the turfs which constitute the banks of the stream. In Scotland this used to be a favourite pastime, in which the boys in the pastoral districts of Dumfriesshire, Selkirkshire, and Peeblesshire revelled with intense delight. In these latter times, when angling has become a popular enjoyment among all classes, it is generally discouraged, and wellnigh abandoned. Some years ago one of the most deservedly popular Dissenting ministers in Edinburgh was spending his holidays amid the uplands of Lanarkshire. He was an enthusiastic and successful angler, and one beautiful summer afternoon was prosecuting his favourite pastime, but with indifferent success. On turning round a heathery knoll, where there was a bend of the stream, he came upon a band of boys who had, on the occasion of a school holiday, betaken themselves to the Daer for a day's "guddling." On seeing that the boys took fright at his approach, he thought to have sport at their expense. As the urchins ran off with their jackets in hand, and one with about a dozen of trout strung by the gills upon a twig of heather, the clerical angler ran after them, simulating great anxiety to get hold of one of the "guddlers." After they had all succeeded in getting across the stream, and deeming themselves safe beyond his reach, one of the most precocious of the lot halted, and defiantly looked his

pursuer in the face. The minister, addressing him, said, "I wonder that you are not ashamed of yourselves to be catching the poor trout by 'guddling' them beneath the stones; you know that is most unfair." The representative of the "guddling" fraternity retorted from across the stream, "It's you that should be 'shamed for trying to cheat them wi' sham flees." It is almost needless to say this clever retort the minister greatly relished, and used to tell it among his friends with that genial humour for which he was proverbial.

That the results of piscatorial excursions have of late years somewhat diminished is a subject of general remark among anglers. Mr Stirling in his article on "Trout-fishing" says: "On the Tweed, twenty or thirty years ago, baskets of from fifteen to twenty pounds were but usual: the railway came, and with it crowds of anglers from the metropolis; baskets soon decreased, until the average was down from four to eight pounds, where I believe it has remained for a number of years past."[1]

This statement by Mr Stirling is unfortunately too true. Still, exceptional instances of marvellous success on the Tweed are yet to be found. In the summer of 1879, we had occasion to spend a few days on Tweedside with a friend, also an enthusiastic angler. We were fully equipped, and every way prepared for two days' uninterrupted trout-fishing. A heavy rain had fallen on the preceding day, and the water, the

[1] Fish and Fisheries, p. 318.

wind, and the atmosphere were everything that the most accomplished angler could desire. On the first day, with the two rods, we caught fourteen dozen of fine trout. While numbers of them were only about four and six ounces, a considerable number ranged from half to three-quarters of a pound, and a few about one pound in weight. A few showers having fallen during the night, we commenced on the second day under circumstances equally favourable with those of the first. On this occasion we caught sixteen dozen fine trout, much the same in quality as on the preceding day. We were thus in two days, with two rods, successful in taking from the Tweed thirty dozen of beautiful trout, a circumstance which we believe rarely to be equalled nowadays. It must, however, be stated, that both before and since, we have fished the same stretch of water with very indifferent success, so that our good-luck on the two days in question must be accepted as exceptional in the most rigid sense, and as in no way invalidating the remarks of Mr Stirling.

It would be a mistake to suppose that the decline in the angler's success is exclusively traceable to the reasons assigned. Fresh-water trout are so much appreciated in our towns and large cities, that a ready market and high prices can always be found for them. The effect of this has been to give rise to an extensive system of poaching by lawless persons, who have recourse to netting our mountain streams and rivers during the night. By this means the number of

trout which is carried off, even where they are preserved, is larger than most people would believe; while the trout that escape are so scared that they betake themselves to their hiding-places, so that for a day or two fly-fishing is to a large extent fruitless where the netters have been at work.

Another cause which contributes to destroy the prospects of the angler in some of our large rivers is the refuse and poisonous matter introduced into the river by manufactories. This is a point upon which there has been much contention and diversity of opinion, but illustrations of the wholesale destruction among trout from this cause have unfortunately been too numerous of late to place the matter beyond dispute.

One of the most aggravated illustrations of trout-poisoning occurred in the Tweed during the summer of 1882. It is a practice, as is well known, among certain manufacturers, to empty their poisonous refuse into the river on the Saturday afternoons, after their mills have been closed for the week. On Monday the 26th of June of the year referred to, anglers who were out on the reaches of the river between Yair and Sunderland Hall, were surprised to find hundreds of trout in a dead or dying state in all the shallows by the side of the river. On the inspection of numerous specimens, there was found nothing to indicate the presence of disease: they were all plump, healthy-looking fish, and had apparently been feeding up to a short time of death. There was, however, this

peculiarity—the gills of every one of the fish affected presented a dirty-white, foul appearance; and persons who had previously seen the movements of fish suffering from poison were all at one in ascribing to that cause the death of those thousands of fish which marked the shallows of the river. Before succumbing, many were observed to rise quickly to the surface, and in a darting manner skim or rush along it for a yard or two, then suddenly drop lifeless to the bottom. Higher up, on the Elibank, Thornilee, and Ashiestiel parts of the river, the same state of matters had been observed on Sunday; and higher up, towards Walkerburn, the sufferings of the fish had been observed on the Saturday evening: and strange to say, no indication of any of the trout having been affected was discoverable above the point where the mill-lade enters the Tweed, below the manufactories at Walkerburn.

The river, it may be noted, was running in considerable volume at the time, and the pure fresh water could only have been vitiated by a very large quantity of poisonous matter being introduced into it. The destruction of the fish on this occasion was truly enormous. From below Walkerburn to Ettrickfoot, a stretch of about twelve miles, the dead fish were to be seen from the river-banks in thousands. In short, the havoc which had been wrought could scarcely be exaggerated, as the fish might have been gathered in sackfuls, and even by the cart-load.

As was to be expected, such a disastrous result to the fish in the river attracted the attention of the

county authorities. The Procurator-Fiscal for Peeblesshire raised an action against certain parties charged with the management of the Walkerburn manufactories. Numerous witnesses were examined for the prosecution and the defence, the Sheriff concluding, from the scientific and medical evidence submitted, that the fish had been poisoned by large quantities of chemical substances having been imported into the river from the manufactories in question. The defenders appealed to the Court of Justiciary; but after hearing counsel, the Court refused the appeal, with expenses, Lord Craighill remarking "that the evidence showed such a gross case of pollution as not only to justify but to call for the judgment which had been given."

The only parallel to this wholesale destruction of fish in the river Tweed within living memory occurred in the summer of 1848. On that occasion the bridge at Ashiestiel gave way, and as a matter of course, was precipitated into the river; and from the large quantity of newly wrought lime which was eliminated by the current from the demolished structure, all the fish in the river, big and little, seemed to have perished, without exception, for a distance of nearly six miles.[1]

More recently a villanous practice has been indulged in, by certain lawless parties of the baser sort having recourse to the use of dynamite for the destruction of fish. The havoc wrought by this modern device is so incalculable, that to the unin-

[1] Southern Reporter, June 29, 1882.

itiated it will appear incredible. By the introduction of a quantity of this powerful explosive into a pool stocked with trout or salmon, everything that partakes of life is mercilessly destroyed. As soon as the water has become clear, all the trout or salmon which have come within the sweep of the violent perturbation are to be seen dead or dying, numbers of them floating towards the surface. As society has very properly resolved that no mercy should be extended to those who have recourse to the use of dynamite for the destruction of public buildings, we have no hesitation in urging that this class of poachers to which we have called attention should be visited with penalties of the most extreme kind. So recently as the summer of 1883 an outrage of this description was perpetrated in Kincardineshire. "The inhabitants of Bervie were alarmed one Sunday morning by hearing a loud report, like the firing of a cannon, in the direction of Bervie Water. Some of the nearest residenters hurried to the spot where the sound was heard, and were in time to see a place in the water known as 'Rew's Pot' all in a dirty and disturbed state, and a great quantity of dead fish floating down, while a party stood near by watching the result of the experiment, which, it is stated, was a charge of dynamite. 'Rew's Pot' is noted for trout and salmon; and great quantities of trout, dead and dying, were fished up, being all killed by the shock of the discharge."[1]

[1] Edinburgh Evening News, May 3, 1883.

In view of such a case as this, it is a question for the Legislature to consider, whether this system of river-poaching which has recently sprung up should not be dealt with by special penalties.

Such practices as harrying the river by nets, or poisoning the fish with lime or other deleterious substances, are already expressly prohibited, under severe penalties, by the Fresh-water Fisheries (Scotland) Act of 1845, entitled "An Act to prevent fishing for trout or other fresh-water fish by nets in the rivers and waters of Scotland;" and also by the Act of July 1860, entitled "An Act to extend the Act of the 8th and 9th years of Victoria, chapter 26, for preventing fishing for trout or other fresh-water fish in the rivers and waters in Scotland."

Throughout Scotland, and especially in the counties of Argyle, Ross, and Sutherland, there are many fresh-water lochs which afford splendid sport for the angler. The island of Mull has acquired a great reputation in consequence of the ease with which large baskets can be had from several of its fresh-water lakes. Some of these lochs in the north are of but small dimensions, and yet the fish in them are most abundant. In the spring of 1882, we spent a couple of hours in a boat angling on Stittenham loch, a few miles north from Alness. Notwithstanding that the lake was of limited extent, and by no means of a prepossessing appearance to the eye of the angler, we succeeded in catching four dozen of splendid trout. There was a uniformity in the size of

them, while they seized the hook with an eagerness and voracity that we have never seen equalled.

In Sutherland, the number of these lochs—or tarns, as the smaller ones are sometimes called—is legion, affording endless facilities for sport. Those, however, who prefer trolling to fly-fishing, must direct their attention to lochs of much larger dimensions, where they may have ample scope without the risk of their line being brought in contact with weeds and other impediments. It is in such lakes as Loch Maree, Kildermorrie, Loch Luichart, Loch Awe, Loch Assynt, and Loch Shin, that large overgrown trout, popularly designated *Salmo ferox*, are to be encountered, affording sport scarcely inferior to salmon-fishing. Notwithstanding the confidence with which certain recognised authorities have affirmed that those large fish are a distinct species, we have never been able to discover any peculiarity not to be found in ordinary loch-trout. We are disposed to treat those large specimens, whose habitat is the fresh-water lake, as simply overgrown monsters that have lived and gorged themselves upon small trout, frogs, &c., for a long series of years. The duration of the life of a fish in natural circumstances has never been satisfactorily ascertained; but those who may have dissected any of the fish in question, must be satisfied that they have existed for very many years, while as food they will be found most unsavoury, and to contrast unfavourably with the generality of fresh-water fish.

The longevity of trout has been demonstrated by

numerous well-authenticated cases where they have been introduced into public wells and miniature ponds in gentlemen's pleasure-grounds. A trout five or six ounces in weight was taken from the river Leader in 1835 by James Crossby. He put it into a well in the town of Earlston, where it remained for many years, being regularly fed by the children of the district with worms and crumbs of bread. For several years it continued to grow in natural proportions, but latterly it began to fall off in breadth until 1869, when it died somewhat emaciated, with a large head out of all proportion to its body. At its best it never exceeded a pound and a half in weight. We have here a well-authenticated case of a fresh-water trout having lived thirty-four years under artificial circumstances, after spending its juvenile life in the Leader.

We have an equally well-authenticated case of a fresh-water trout having lived in a well in Dumbarton Castle for a period of twenty-eight years.

On the 1st of June 1876, Mr James Gray, a native of Leuchars in Fife, transferred a small trout about three inches in length from the Moonzie burn to the "Lady Well," in the east end of the village. During the time that this trout has occupied the well in question, it has been the pet of the children in the village, and lives on the most friendly terms with them, being abundantly fed with worms during the spring and summer months, and with small pieces of bread, &c., during the winter. It has preserved its

symmetry, and is at present over seventeen inches in length, and about six pounds in weight.

There is another interesting specimen of a fresh-water trout in a well in the village of Comrie in Perthshire, where it has been for very many years. We visited this well in the summer of 1882, and were greatly interested in the fish. It seemed exceedingly tame, and came out from beneath a large stone whenever any one approached, and appeared disappointed if it was not supplied with morsels of bread or a few worms, these being daily supplied to it by the school children, with whom it was a special favourite.

Now that fishing is being so generally prosecuted, many anglers betake themselves to fish in our fresh-water lakes. In Perthshire and Inverness-shire, loch-fishing is often prosecuted with marked success. In trolling, many agree with us in preferring natural to phantom minnow. Some, however, have a different opinion, and prefer the phantom to the natural. On Lochs Rannoch, Garry, Ericht, and Tummel, when trolling for *Salmo ferox* with two rods, one with the artificial and the other with the natural bait, we have found that in two cases out of three the latter was the more attractive lure. The best natural bait, and the one with which we have been most successful, is a frog or char where these are available. In most of the large trout we have dissected, we have found one or more frogs or char in their stomach. In one instance, we found in the stomach of one of twelve pounds' weight—which can be seen stuffed in the Edinburgh

Museum—four char and two common trout, of the aggregate weight of a pound and a half; and it was while in the act of seizing the seventh fish that the greedy monster was hooked. Par, or young herrings, also make a tempting lure, the latter being very showy in the water.

Though as a rule trolling, in order to be successful, should be prosecuted when there is a good breeze and the lake somewhat troubled, or at unseasonable hours, yet we have frequently caught them when it was quite calm. In experimenting with length of line and weight of lead, we have been most successful with a long line—not less than fifty yards—and a heavy lead, in order that the bait may be sunk deep in the water.

There are few things more enjoyable than trolling on a Highland lake during a mild but somewhat tempestuous day, or during the night in the months of June or July, when the days are at their longest. In our nocturnal expeditions after the *Salmo ferox*, we have invariably been most fortunate after sunset, or shortly before sunrise. We have often left Pitlochrie about seven o'clock in the evening, driven through some of the most picturesque scenery in the Highlands to Loch Tummel, and commenced to fish between eight and nine o'clock. Trolling several times up and down the river for a few hundred yards where it leaves the loch, we usually secured two or three pike. As a general rule, we then trolled round the loch, taking care to fish well those parts which we had learned from experience were the haunts of large

fish. When midnight approached, we used to disembark, which we generally did at the east end. Here we ever found ready at hand the necessary material for kindling a fire, as, from the flow of the river, and the high winds being generally from the west, there was a collection of branches, heather-roots, and other *débris* that made capital fuel. In those regions, even in the midst of summer, the cold about midnight is frequently intense; but when the weather is mild and dry, a night spent in such circumstances is truly enjoyable, although we should not recommend the experiment to be tried by those who are not robust, or by such as are advanced in life.

With the modern devices and appliances in use for the preparation of food, hot tea or coffee, or even a more substantial warm meal, can promptly and conveniently be prepared, not omitting, of course, fish fresh from the lake. This is a novelty by no means so rare as it once was.

During the shooting season of 1878, we were somewhat interested by finding a lady angling in one of those mountain-streams which take their rise in the Grampian range above the Spittal of Glenshee. This lady angler had caught a number of fine yellow trout, which, with the aid of a spirit-lamp and small portable gridiron, she cooked most successfully; and she was polite enough to invite several of our party to lunch with her, in circumstances as pleasing as they were romantic.

Reverting to Loch Tummel: after eating our sup-

per round a blazing fire, we again, shortly before sunrise, betook ourselves to the boat, put out our lines, and diligently prosecuted our sport. The grandeur of the landscape was enhanced as the sun began gradually to rise from behind the dark heath-clad mountains, the shade of which appeared for a while to be specially favourable to our angling enterprise. As time wore on, and the sun shot right up into the sky, the conditions for the successful prosecution of sport gradually disappeared. Having learned that sport was not again to be expected till the evening, we gave it up, returning to Pitlochrie in the trap, which had been put up at a farmhouse. Three, four, five, and six trout were about the numbers obtained in such expeditions, weighing from three to nine pounds each. Many will think that these numbers scarcely justified our nocturnal expedition; but when we keep in view the way these large fish fight for their lives, and the consequent excitement which ensues, it must be admitted that there is realised an amount of real sport which, apart from salmon-fishing, is not otherwise attainable.

While good fishing is to be had in many Highland lakes, the largest specimen of the trout species we ever caught was in Loch Garry, during the shooting season of 1881. This fish fought with a tenacity and determination to get disentangled from the line that we have never seen equalled, even by a salmon twice its size. It weighed 14 lb., and was in good condition, although there was something about its appear-

ance which indicated that for many years it had gorged itself with the smaller fish which frequent the lake. It was caught by trolling with a char, and in its stomach we found a trout about three-quarters of a pound in weight. We had this large fresh-water trout handed over to an eminent artist, who painted it full-size in oil, and it was exhibited in the Fisheries Exhibition in Edinburgh the following year, where it attracted very considerable attention.

Speaking of loch-fishing as a whole, we know no fresh-water lake to equal Loch Leven for general trout-fishing. True, there are no *Salmo ferox* to be encountered—although an occasional trout of three or three and a half pounds is to be had—but the average size and quality of the trout are not to be surpassed in any loch in the United Kingdom. The stock of fish has been well sustained through being supplemented from artificial breeding-ponds; and so famous have they become, that numerous applications are made from all quarters for quantities to stock preserved lakes. The readiness with which the present Company have complied with the applications made to them has, we fear, latterly proved prejudicial to the fishing in that loch. During the season of 1882-83 the disappointment experienced by anglers was very general; and there is grave reason to fear that the explanation, in some degree at least, was to be found in the large numbers that had been netted for the purpose indicated and for sale to visitors. While we should be reluctant to discourage the facili-

ties that are being offered for introducing the Loch Leven trout into other lakes, we have no delicacy in recommending that the practice of netting the trout and preserving them alive in tanks, to be disposed of to unsuccessful anglers, should be altogether discontinued. We feel jealous for the reputation which Loch Leven has so long and deservedly enjoyed as the angler's resort, and which must be accepted as our apology for venturing to make this remark. When we keep in mind the liberal amount paid by those who visit it, and the consequent travelling and incidental expenses, it must be admitted that every facility should be afforded them for securing at least a fair basket. Attention to this recommendation would, we feel assured, prove as remunerative to the proprietor or lessees in the long-run as it would prove satisfactory to anglers who pay an occasional visit to that most beautiful and attractive sheet of water. Keeping in view the splendid boats furnished by the Company, the steady and superior class of boatmen, and the courteous treatment of Captain Hall, the Company's representative, it would be a matter of regret if Loch Leven should ever fail in supplying piscatorial enjoyment to the numbers who are attracted to it from every part of the kingdom.

As elsewhere, success on Loch Leven is variable, and of course dependent on circumstances. Twenty trout, of the average weight of one pound, is no unusual basket, though it is scarcely necessary to say that two or three fish, or even a blank day altogether, is by no

means uncommon. Anglers are a good deal led astray by the heavy baskets recorded in the newspapers, and not unfrequently resolve to have a day on the loch, anticipating similar success. Those to whom money and time are no object, may come to have enjoyable sport on Loch Leven, for should they have an unsuccessful day, they may be more fortunate the next. Still, when time and money are considerations, the waiting on at the hotel for a favourable day may prove somewhat inconvenient. The charges for fishing on Loch Leven are exceptionally high, two-and-sixpence an hour being the terms for a boat, while the boatmen generally acquit themselves so satisfactorily as to deserve some recognition, although it is but right to add, the above charge is understood to include the remuneration of one boatman. As a rule, the boats generally leave the pier about ten o'clock. On starting, parties are probably advised to troll phantom minnows for two or three miles before commencing to drift for fly-fishing. They may then fish industriously for five or six hours, and be rewarded only by about one to the hour for each rod. Others, again, may not be successful, while on the same day one or more parties may secure a basket of fifteen, twenty, or twenty-five pounds. On arriving at the pier, those who have obtained large baskets are prompt to have them weighed, and the number and weight of fish duly entered in the register. Those who have been less successful, as a rule intimate the number caught, but decline to have them weighed. On

the following morning, the few who have succeeded in obtaining large baskets are duly reported by the press, while the large number who have been unsuccessful are never heard of.

Those unacquainted with certain practices which prevail at Loch Leven are apt to be misled by these newspaper paragraphs. It must be noted that in each of the boats there are generally two, and sometimes three rods constantly in use, and that the number of fish thus caught by one boat are not, as many suppose, caught by one gentleman. The assiduity with which these rods are used is remarkable, the anglers continuing industriously casting, and trolling when the boatmen are rowing from drift to drift. Even while the gentlemen are eating their lunch, the boatmen utilise every minute by using the rods, and most of them being experts, they materially aid the filling of the basket.

Unlike most other lochs, the best fishing is to be got on Loch Leven with an east wind, and the best flies to use are "the naylor, peat-moss, March-brown, heckam-peckam, green-mantle, or teal and red," all of Loch Leven size, with a moderate breeze, and a little larger when the water is rough. In a stiff breeze, this loch is at times very stormy; but the boats are large and safe, and consequently little danger is to be apprehended. As a rule, the Loch Leven trout, when they do rise, take greedily, and are more frequently hooked than in most lakes; hence, when there is a good breeze and a dark sky, no great skill is required, if due care

be taken in lifting the trout into the boat. It not unfrequently happens that while there is a skilled angler and a comparative novice in the same boat, the latter will be found the more successful of the two. It is, however, very different when the lake is without a ripple, and a clear sky above head, with sunshine, uninterrupted by passing showers. On such occasions the amateur may cast the entire day without ever raising a trout, while the angler who has acquired proficiency will, as a rule, secure a few. If he be careful to use the finest gut, and small flies, and watch until he observe a trout rise to the natural fly, and then cast gently within the disturbed circle caused by the action of the trout, he will not unfrequently have his skill rewarded by one being hooked. This feat, however, can only be accomplished by those who have acquired proficiency in the "gentle art."

We would not advise those who incur the expense of an occasional day at Loch Leven to waste their time in the deep water. As a general rule, trout will be found on some of the banks which are well known to the fishermen; while towards the evening, successful sport will often be had within a distance of from sixty to a hundred yards from the shore. Personally, we have seldom failed, somewhat late in the afternoon, to hook some of the finest trout just on the black line which divides the deep water from the beautiful white sandy or shingly beach.

Loch Leven is also famed for its perch-fishing. They are not only numerous, but exceptionally large; and

by using the common red worm as a bait, they afford most enjoyable amusement for ladies and juveniles in the cultivation of their piscatorial tastes. The charge for boats engaged in perch-fishing is about the half charged for trout-fishing. This arrangement by the proprietors we consider a wise one, and to be encouraged, as the large number of perch in Loch Leven necessarily diminishes the food-supplies of the trout.

There are also a great many pike in Loch Leven, and they are occasionally caught when trolling. From the large quantity of trout devoured by these "fresh-water sharks," the Company, to their credit, spare neither labour nor expense to reduce their numbers as much as possible by netting and other methods.

Landing-net.

Salmon-fishing on Loch Tay.

CHAPTER VIII.

SALMON AND SALMON-FISHING.

Among the numerous and varied species of fresh and salt water fish, the salmon is the king. There are few finer sights for the naturalist or the piscatorial devotee than a well-conditioned salmon: whether as regards his small head, finely curved tail, or general symmetry, he is without a rival.

The natural history of the salmon is a subject which has afforded ample material for discussion. Experiments in the Stormontfield breeding-ponds and elsewhere, demonstrate beyond doubt, that between three

and four months after the ova have been deposited, the young fish issue from the eggs. After remaining in the river till the following summer, some of them begin to assume the migratory hue, and descend to the sea as smolts, while a considerable proportion continue denizens of the fresh water till the following spring.

There are some writers, including Mr Buckland and Mr Dunbar, who affirm that there are a certain percentage which do not pass into the salt water till the third year of their existence. Having once reached the salt water, all authorities are at one in testifying to their rapid growth while they remain there. Mr Young, in his admirable treatise on salmon-fisheries, directs attention to three salmon marked by the late Duke of Athole on their way to the sea. These fish weighed 10 lb., 11½ lb., and 12½ lb. respectively. They were each marked by a copper-wire round their tails, and on their return to the fresh water six months afterwards, were again captured, when they were found to weigh 17 lb., 18 lb., and 19 lb. respectively.[1] This circumstance we cannot, however, accept as proof that all salmon increase in this proportion while in the salt water, as it is to be inferred that the fish in question were spent fish or "kelts," when interrupted in their passage from the fresh to the salt water.

There are some countries where salmon are not

[1] Salmon-Fisheries. By Archibald Young, Commissioner of Scotch Salmon-Fisheries. P. 209.

found to exist; but since artificial hatching has become so common, rivers are being stocked where they have hitherto been unknown. Though they are found in Norway and Sweden in greater numbers and larger in size, their flesh is coarser; and we believe that finer salmon are got in Scotland than anywhere else.

Another singular circumstance which has never been satisfactorily explained is, why they should ascend certain rivers on the same coast in different months of the year. For example, we find that as soon as the ice upon the upper reaches of the Tay is broken up, the salmon are to be found, in great numbers and of enormous size, pushing their way up as far as Loch Tay, and shortly thereafter are to be found in the river Dochart, several miles above the loch. The season opens on the Tay as early as the 6th of February, when it is no unusual thing for good sport to be had by trolling with the phantom or real trout of comparatively small dimensions. Here, as elsewhere, salmon do not rise readily to the fly so early in the season. There are, again, rivers on the same coast, but farther north, where the fish rarely ascend till the months of May or June. Among these we may mention the Deveron, the Alness, the Conon, and even the Earn, which is a tributary of the Tay. Notwithstanding that the nets are taken off the river Earn on the 20th of August, it is a singular fact that salmon, as a rule, are not to be found pushing their way up the river till well on in October. So notably

is this the case, that the proprietors in the upper reaches made an effort in 1882 to have the time for rod-fishing extended from the 10th to the 31st of October. As the result of their success in obtaining an extension of time, it was found there were more salmon killed above Crieff during the extended period than prior to the 10th, when rod-fishing formerly closed.

Mr Buckland, who has given a large share of attention to this subject, gives it as his opinion that the earliness or lateness when salmon enter rivers depends upon their proportion of mileage to their square mileage of catchment-basin. Mr Young, again, dissents from this theory, and gives numerous illustrations against its application to Scottish rivers. He prefers to account for the periods at which salmon ascend the Scottish rivers to the temperature and climate. Mr Young supports his opinion by observing that those Scottish rivers that fall into the German Ocean and Pentland Firth on the east and north-east of the island are early, while those that fall into the Atlantic on the western coast are late rivers. He also points to the fact that those rivers flowing into the German Ocean are, as a rule, longer in their course, and their temperature consequently warmer, and infers that there is thus an inducement for the salmon to ascend those rivers earlier than they otherwise would. In the absence of anything like uniform and indisputable testimony, this is a subject upon which we shall not venture to dogmatise. At the same time, we

think it highly probable that the influence of the Gulf Stream may ultimately be found to operate in determining the course of the salmon in their journeyings towards the fresh water.

On the southern rivers on the east coast of Scotland, including the Tweed and its tributaries, while salmon may be said to enter them at all seasons, few ascend to the upper reaches until the autumn, even when the river is in flood, and when, of course, they cannot be intercepted by nets. In writing of the Tweed as the habitat of salmon, it is a singular circumstance that they rarely enter the Whitadder, although it empties itself into the Tweed over a shingly bed only a few miles from Berwick. It is far otherwise with sea-trout, which ascend the Whitadder in great numbers, many of them of large size, during the autumn and winter months. This peculiarity has puzzled anglers and naturalists for many long years, but as yet no satisfactory explanation has been arrived at.

On the west coast of Scotland the same peculiarity is discoverable. In the Aray and the Shira, which empty themselves into Loch Fyne, salmon, grilse, and sea-trout rush up in large numbers—more especially the former—during the months of May and June; while in some of those rivers which empty themselves into the Solway, they seem not to be found in large numbers till somewhat later in the season.

The instinct of salmon and sea-trout is to push their way steadily up the river, keeping generally in

smooth water, and being often visible from the embankment when the river is swollen with heavy rains. Their instinct not being such as to enable them to anticipate the shallowness and contracted dimensions of the river or stream after the augmented current has run its course, they are naturally subjected to extensive slaughter by shepherds, ploughmen, and others engaged in factories and workshops in those villages on the side of the rivers. The number of fish killed by these midnight marauders, who, with torches, "leisters," and other weapons, "burn the water," is simply incredible. We have good grounds for believing that in some of the tributaries of the Tweed very few of the fish which ascend to spawn ever get down again. In point of fact, in some of the agricultural and pastoral districts of Peeblesshire, spearing by torchlight is looked upon as quite fair, and its prevention regarded as tyrannical and unjust. Hence the watchers, or "water-bailiffs," as they are called, are regarded by the rural population as persons engaged in a mean and despicable vocation, and are cut off from all countenance and sympathy by those in the district—so much so, that in many cases it is with the greatest difficulty they can find lodging, and have frequently to bivouac in iron houses and temporary huts.

A few years ago, while walking from West Linton to Romanno Bridge between eight and nine o'clock one evening, we saw the river-poachers "burning the water" in three different places. As the road runs

parallel with the river Lyne for about half a mile, we were somewhat interested in watching the operations of one of the gangs. The party consisted of four men—one with a "cruisie," a sort of portable grate made of iron hoops, with a long handle, in which was sacking saturated with paraffin-oil, the blaze of which might rival the electric light. Another, with a "three-taed leister," waded up-stream in company with the one carrying the light; while the other two, with sacks, walked on each side of the river carrying the spoil. Occasionally the light became stationary as a fish was seen on the spawning-bed, and in an instant the victim, wriggling on the spear, was forked to the nearest bank. On one occasion two were lifted on the spear at the same time; but one of them broke loose, fell again into the water, and escaped. The splashing, plunging, and wild oaths which followed in their endeavours to recapture it, terminated by the torch-bearer falling into the water with the torch, and in an instant they were all in darkness. A volley of oaths from the victim of the mishap, and the shouts of laughter from his companions, lasted for a considerable time. One of them struck a light with matches, and another took from his coat-pocket a piece of coarse sacking, cut it in pieces, put it in the "cruisie," and poured a quantity of paraffin-oil on it. At this juncture we were discovered on the road by one of the four, who, on communicating the information to his companions, was answered—we distinctly heard the reply—"What did it maitter? there were nae bylies

up yet." They relit their torch and proceeded, replenishing it occasionally with oil; and in the short distance of about half a mile, we saw them kill twenty-five fish.

On reaching the farmhouse, where we remained for the night prior to shooting the following day, we related the affair to the farmer. He then told us that "nearly every one in the district tried the fishing" (he would not have it called poaching).

As in the case of all deeds of lawlessness, this system of river-poaching leads often to dissolute, and not unfrequently to dishonest habits. It is no unusual thing for farmers to have their barns invaded, and empty sacks carried off, preparatory to such exploits; while the sheep-farmer has his tar-barrel often partially emptied, as a contribution to the "night's fun," in which so many of our rural and pastoral population are ever ready to indulge, regardless of the heavy penalties attached to such illegal proceedings. It is here we discover the demoralising influence of river-poaching; for even where private property is appropriated in order to contribute to the illegal enjoyment, the idea of its involving the element of dishonesty is not recognised. As an illustration of this, in conversing with the farmer referred to, he told us that some time previously he bought a cask of paraffin-oil, and in order to keep it out of the house for fear of fire, he put it in the garden, having a flaskful brought in as it was required. Before much of it had been consumed, he found the cask one morning empty.

He afterwards learned that the "water-burners" had climbed over the wall and helped themselves. Had the property in question been carried off for any other purpose than that of "burning the water," he should certainly have at once placed the case in the hands of the district police. As it was, however, he regarded it very much in the same light as his neighbours, and treated the affair as partaking largely of the character of a joke.

The dexterity with which those experienced in the use of the "leister" can spear the fish is remarkable. Some of them, with a rope attached to the "hoe" of the leister, can cast it into the river, in deep water, at a considerable distance, and affix it in the body of the fish with unerring accuracy.

During the conversation with our host for the night, the farmer in question, we asked if there were no river-watchers, and if convictions were ever made? He replied,—"The bylies have not come up yet, but they have succeeded in getting lodgings, and will be on the water next Monday. Some of the chaps," he continued, "are so desperately keen, that when they see a fish they cannot let it alone, even when they know the bylies are hereabout, and are consequently often convicted." He then related how large numbers of fish were killed the previous year, by a gang who were never caught. The watchers lodged with a shepherd whose daughter attended the Sunday-school, and distributed tracts to people in the neighbourhood. When the river had fallen in after a flood, and was

well stocked with new-run fish, the watchers had to "look out" during the day as well as at night. After being out the most part of the day, they naturally took a few hours' rest when they went in at dusk. This was taken notice of by the shepherd, who, when a favourable opportunity offered, despatched his girl to distribute the "Monthly Visitor." The recipients of the tracts knew the plot, had everything ready, and in a couple of hours sackfuls of fish were taken from the river.

How salmon are to be protected during the spawning season in the Tweed and its tributaries, is a problem which has long occupied the attention of the Tweed Commissioners; but notwithstanding their several appeals to the Legislature, and the severity of the penalties imposed, they have signally failed to accomplish their end. The penalties inflicted under the Tweed Acts are cumulative and oppressive, while the Commissioners are merciless in their exaction. The fines imposed for illegal fishing, or for having leisters, rake-hooks, or nets in possession, are so enormous compared with those imposed for many other more grave crimes and police offences, and are so anomalous, as to bring the authority of the law into contempt. As an illustration of this, some years ago a young thoughtless farmer was tried in one of the Border towns for discharging a gun at a vagrant Irishman who had paid a nocturnal visit during a moonlight night to his farm-steading. The farmer was convicted, and a penalty of five shillings imposed;

while shortly thereafter a mill-worker, who had earned a character for being a notorious river-poacher, had cumulative penalties inflicted upon him to the extent of eighty pounds, including costs. That such a state of things should be allowed to exist is a foul blot on our legislation. If the Tweed Commissioners would have their Acts amended so as to necessitate the taking off the nets a month earlier than at present—and thereby allow anglers on the upper reaches of the river to have an interest in the monopoly now confined to the proprietors of the lower waters—and so as to relax somewhat the penalties for not returning to the river all kelts caught with the rod and fly,—we venture to affirm that they would do more to make poaching disreputable, and to protect the fish during the breeding season, than any Act of the Legislature, however rigid its character.

After a severe frost great destruction is caused to salmon life in the breaking-up of the ice, by their being jammed among the floating masses. The numbers, however, that are destroyed in this manner are trifling compared with those which in late years have succumbed to a mysterious epidemic designated the "salmon disease." The extent to which salmon have suffered from this cause is most vexatious. The ravages of this dreadful malady in the Tweed and its tributaries during the last few years baffle description. The following gives the total number of diseased salmon, grilse, and sea-trout taken from the Tweed in four years: In 1880, 5222; in 1881, 2907;

in 1882, 14,627; and in 1883, 4860. Total for four years, 27,616.

Walking on the banks of the river in the spring of 1881 or 1882, it was a sad spectacle to see the immense numbers of large fish lying or floating lazily in shallow water, victims of this horrid pestilence, all more or less covered by the loathsome fungus. Many of them were evidently suffering great pain, the disease having, like a cancer, eaten right into the head of some of those worst affected. Several of those diseased fish we touched with the point of a stick, when, for a few seconds, they would make a successful effort to get into deep water; but in a short time they were again to be seen floating, weak and sickly, into the ebb still water by the side of the bank.

We do not pretend to be able to explain either the origin or nature of this loathsome pestilence amongst salmon. It makes its first appearance by the fish becoming spotted with whitish mouldy-looking blotches, commencing frequently about the head, and spreading rapidly—if the fish should survive—till it covers wellnigh the whole body.

That the salmon disease is contagious, we have no manner of doubt; and that, as a general rule, it proves fatal, is also incontrovertible.

The theories set up as explanatory of the cause of the salmon disease are as numerous as those to which the grouse disease has been attributed; but up to the present time there has, in our opinion, been no satisfactory solution of this controverted subject.

There are those who confidently affirm that it finds its origin in the pollution of rivers by the foul refuse issuing from the woollen manufactories which mark the banks of the Tweed and its tributaries. This theory is doubtless a most plausible and a reasonable one; but unfortunately for its advocates, we find the prevalence of salmon disease—perhaps not to the same extent—in those rivers where manufactories are unknown. Others, again, trace it to overstocking and too vigilant protection of our salmon rivers. This theory also breaks down, when we discover that in those rivers where salmon are by no means plentiful they are not exempt from the malady. There are some, and we admit no mean authorities, who affirm that salmon disease has its origin in wounds being inflicted by "kippers" on each other during the spawning season. No one who has witnessed the fierce encounters which take place between the male fish in the neighbourhood of the spawning-beds, will doubt that the wounds received are often both numerous and serious, and that when the skin is thus broken and torn, the conditions are most favourable for the development of the fungus. At the same time, there are circumstances which seem to refute this theory also. Since the subject became a matter of close observation and study, it has been found that the fungus has occasionally made its appearance before the spawning season had commenced, while the female fish are not exempt from its incursions. No doubt the contagious character of

the disease may to some extent account for the latter circumstance, but it offers no explanation for its appearance in the former case. That the theory in question may, and does, predispose to the disease, and aggravate its virulence, we verily believe; but that it constitutes its origin, we regard as inadmissible.

Other writers upon the subject tell us that the disease consists in a destruction of tissue through the existence of myriads of parasites, and in the liver becoming soft and friable by disease. All these peculiarities are no doubt features of the malady; in short, they are simply results. But the question still remains to be answered, Why those diseased tissues, those numerous parasites, and diseased livers? Until these questions are answered, we do not require to point out that we are no nearer the solution of this mysterious problem.

While we have doubtless touched upon several of the more immediate or secondary causes of salmon disease, we believe that the remote or originating cause must be sought for somewhere else. In so far as the researches of scientific inquiry are concerned, it seems to pertain to that class of mysterious calamities which periodically overtake the animal and vegetable kingdom, and which have hitherto proved a source of interesting but endless speculation.

We should not be surprised were it ultimately to be discovered that one of the causes of this mysterious disease among salmon is to be found in the circumstance of their being involuntarily detained

in our fresh-water pools, when by physical law they ought to have found their way into the briny deep. The salmon, from its nature, habits, and instincts, is a migratory fish. As a rule, they find their way into the fresh water, and ascend our rivers for a purpose—viz., that of perpetuating their species—as we have no evidence that they deposit their spawn in the salt water. It seems at once natural and befitting, that after they have deposited their spawn and become physically spent and weakened, they should again return to the ocean, where they rapidly become strong and plump, and assume their clear and beautiful silvery hue. When by prolonged drought, intensified by hard black frosts, the rivers become contracted by diminished current, fish are necessarily compelled to fall back into the deep and somewhat stagnant pools; and when it is considered that they are sometimes detained in these circumstances for many weeks together, and become enfeebled in condition, it must appear that all their surroundings are most unfavourable, and eminently calculated to prolong debility and invite disease. We do not presume to dogmatise upon a subject which has baffled the most distinguished authorities, and left royal commissioners in a state of helpless uncertainty; but we cannot divest ourselves of the deep-rooted conviction, that could some means be discovered for carrying off into the salt water those salmon which ascend our rivers, after they had spawned, thousands of those which remain to sicken and die would be saved by the opera-

tion of a law essential to their physical wellbeing, but which, for the reasons we have already indicated, it is impossible for the fish, guided by natural instinct, to comply with. Illustrative of this, we may mention that the late Mr Stirling, curator in the Anatomical Museum in Edinburgh, had a kelt covered with the fungus taken from the river Tweed, and transferred to the sea, where he had it secured in a cage. During its imprisonment it very naturally became thin and emaciated, but entirely recovered from the skin disease. It is now to be seen preserved in spirit in the Anatomical Museum. If a remedy is ever to be found for this subtle and malignant distemper, we venture to predict that it will be discovered in the direction here indicated.

While incredible numbers fall victims to disease and are otherwise destroyed when in the fresh water, the quantities that are lost in their wanderings in the sea must also be very great. "A shark, measuring fifteen feet in length, eleven in circumference, and weighing about a ton, was caught in Aberdeen bay on the 18th of May 1883 by the crew of the trawler Kingfisher. A large number of salmon were found in its stomach."[1] Being brought up on Tweedside, we recollect in our boyhood of an experiment being tried, by netting between five and six hundred kelts in that river, at the mouth of the Whitadder, a few miles above Berwick. They were marked with wire, in order that they might be recognised when they again

[1] Scotsman, May 19, 1883.

ascended the river. Not one of them was ever seen or heard of in the Tweed; though one of them was caught near Yarmouth, another near Tynemouth, and part of one, with the wire attached, was found in the stomach of a cod caught at Eyemouth.

Interesting as the natural history and habits of the salmon tribe may prove to some, it is only when we come to deal with this king of fish as the object of the angler's solicitude that the enthusiasm of all interested in piscatorial pursuits becomes excited. As we have seen in our chapter on Trout-fishing, there is a healthy excitement associated with the use of the rod, but more especially with the use of the fly, whether upon the loch or the river. When yellow trout are rising freely and in earnest, there is an interest and excitement experienced even by those who are cool and callous amid the affairs of everyday life. When sea-trout are rising greedily, which is generally the case after a moderate flood, the enjoyment is greatly enhanced. But the pleasurable sensation of trout-fishing of any kind dwindles into insignificance when contrasted with that of salmon-fishing under favourable conditions.

If on a good water, and under the directions of a fisherman, an amateur may succeed in killing several in his first salmon-fishing expedition. There are certain spots in the bed of every river which salmon, either for the convenience of food or concealment, use as stages or resting-places in their progress upwards, and where they are generally to be found,—for as one

proceeds onward, or is picked off by the net or line, another, led by the same instinct, advances to take its place. These spots are well known to those acquainted with the stream, and a person accustomed to fish it will tell you almost to an inch where the fish will show himself to take the fly. But put the amateur on a river with which he is unacquainted, and where he is left entirely to his own judgment, and the chances are that he fails in killing a single fish. Day after day he may cast industriously, and return home disappointed; but a rise or two encourages him to persevere, and if at last he is rewarded by landing a salmon, he is made a fisher for life. But let no one suppose that the success of a salmon-fisher is to be measured by the number of rises he may obtain, or by the number of fish which may be hooked.

We are acquainted with a clerical gentleman who was ordained in a country parish in the north of Scotland, near the banks of a small salmon-river. He obtained permission from the proprietors to fish, and having purchased a rod and tackle, was determined to make sad havoc among the salmon. He possessed the essential qualities of enthusiasm and perseverance, which even in the experience of the most awkward bring their reward. Having previously acquired fair proficiency in trout-fishing, he with greater confidence renewed his endeavours to lure the salmon to his fly, the capture of one having by this time become the great object of his ambition. One fine autumn forenoon, with a dark leaden sky, a mild

atmosphere, and a gentle breeze, he sallied forth full of that confidence and hope of success which is the universal experience of all the disciples of Izaak Walton. Having reached the river, which was in fine condition upon the third or fourth day after a flood, he put up his rod and commenced operations at the top of a pool which he had fished day after day for several weeks without the slightest shadow of success. Strange to say, the very first cast dropped his "Jock Scott" within six inches of a streak of floating foam, when quick as lightning, and without the slightest warning, the tempting lure was seized, while the fish darted down the pool, taking out twenty-five or thirty yards of line before the angler had time to apprehend the true state of affairs. His feelings, to use his own language, "could neither be conceived nor described," when—the music of the reel being still kept up—he saw a splendid new-run salmon, clear as a silver coin fresh from the mint, leap into the air some two feet above the surface of its native element. Bewildered, and for the time paralysed, another rush, and an additional expenditure of other fifteen or twenty feet of line, brought the angler to realise in some measure the gravity of the situation, and the necessity for action. His first impulse was to follow the fish downwards, but the finny captive manifesting a disposition to return upwards into the deep water, induced him very properly to wind up, and to guard against the first danger of the line being allowed to slacken. Having got right opposite the fish, and a considerable

portion of the line wound up, he began to gain confidence, finding that he was now on somewhat equal terms with his adversary. Now the whole aspect of the scene changed,—the fish, instead of being terrified and annoyed, seemed to be quite reconciled to its position, and slowly and majestically pursued its way towards the throat of the pool. Evidently not relishing to face the strong action of the current with the drag which it felt was being put on from the bank, it made another rush towards the opposite side, although with somewhat less of the resolute energy which it had formerly manifested. Again, by the application of the reel, the distance between the salmon and its captor was shortened, until resistance was again offered. For upwards of half an hour the contest was continued, until, as if in desperation, the fish made a determined effort to get free, having again crossed till wellnigh the opposite bank. It then began to tumble about, lashing the water with its tail, evidently feeling that it was a life-and-death struggle. The angler held on with persistency, and having learned much from reading on the subject of salmon-fishing, he was now able to turn his information to account. After forty-five minutes had elapsed from the time that his fish was hooked, he was able to float it gently into a quiet shallow creek at the bottom of the pool, and without the aid of either net or gaff, was able to land his fish. To use his own language, he said: "When I looked upon my prize, a fine new-run salmon 18 lb.

in weight, with aching shoulders and covered with perspiration, I felt that I had passed through a course of excitement, culminating in a victory, to which during my whole lifetime I had been a stranger. When I preached my first sermon before the Presbytery, I was naturally excited; and when I preached my first sermon to a large congregation, the interest and excitement I experienced, it will readily be believed, were very considerable: but these were nothing when contrasted with the interest and pleasurable excitement associated with the capture of my first salmon."

There are many contingencies between the hooking and the landing of a salmon. There is first the risk of its getting rid of the hook without any violent action on its part, or any negligence or mistake on the part of the angler. There are few things more provoking, after fishing industriously for hours, than to succeed in raising a fish, and have it on only for a few minutes. This will often occur with the very best and most skilful anglers, and can only be accounted for by the line being allowed to slacken, or by the fish being hooked soft about the side of the mouth. Of course this latter explanation only will apply in the case of experienced anglers, as there is nothing they will be more careful to guard against than the line being allowed to slacken after the fish has been struck.

We are of opinion that, in many cases when the

fish is only on for a few seconds, the angler is not sufficiently prompt in sending home the hook the moment he feels that the fish has seized the fly. The importance of attending to this hint will be apparent when it is kept in mind that, as soon as the fly has been seized, the jaws of the fish close, but immediately on discovering its mistake, they are instantly relaxed, in order that the fly may be emitted from the mouth. To strike, therefore, too late, is simply in many cases to draw the hook out of the mouth, or to fix it in the soft or fleshy part at either side, when, after being in for a brief space, the risk of the hook tearing out is very great. There are, no doubt, many cases when the salmon will hook itself. If in a taking or greedy mood, it will frequently swallow the hook, so that it becomes affixed in the tongue or throat. In such cases the most inexperienced will run no risk of losing his fish from the cause we have indicated.

Another contingency which ought to be guarded against is the breaking of the cast, and in some cases the more formidable part of the tackle. The danger here pointed out is so obvious, that it is surprising it should not uniformly be guarded against. Still, true it is that many anglers of experience, as well as those who have no experience whatever, and who are consequently more excusable, lose fish from inattention to this point. There are several points here which must be looked at. There is, first, the small eye, or

the piece of gut which may be attached to the hook, which ought every morning, or every time it is used, to be carefully examined—while the cast ought to be subjected to no less careful scrutiny. These little matters ought to be specially attended to at the commencement of the season ; and when any dubiety exists as to their efficiency, the tackle of the former season should be remorselessly cast aside. The following is a case in point. During the autumn of 1882, a friend of ours went to have a day's salmon-fishing in one of the Perthshire rivers. He had, as he thought, a splendid strong cast of gut, which had borne the strain of not a few salmon during the preceding season. So confident was he that it was all right, that he attached it to his line without the slightest misgivings as to its efficiency. He succeeded in hooking a large fish, with which he kept up a struggle for the greater part of an hour. Just as it was being floated on to the shingly beach, and making the final splutter before yielding up its life, the gut gave way, and the finny captive escaped, adding to its insubordination the crime of theft, having carried off about three feet of the line, which had evidently been enfeebled by former use.

The danger arising from imperfect tackle is not confined to the hooks or gut-cast. There is equal danger to be apprehended from the hair or composition line upon the reel. As an invariable rule to be attended to on *every occasion*, twenty or thirty yards of this

line —or as much of it as has been exposed to the action of the water—should be carefully wound round the back of a chair, or otherwise dried immediately after use, else disaster and disappointment must one day be incurred as the penalty for neglecting so self-evident a duty. Another case in point. Having obtained a day's permission from a gentleman who had rented a fine stretch of salmon-fishing on the Earn in the autumn of 1882, we succeeded in hooking a magnificent salmon—strong, valiant, and fresh from the sea. The pool was dark and deep, and the current of water strong and rapid. On the side from which we cast, the advantages for landing a fish were all that could be desired. On the other side, there were combined all the dangers and difficulties which the angler so much dreads. There stretched out about six feet from the water's edge a long, jagged, and irregular row of wooden piles, interlaced with broken and twisted wire-fencing, which, had it been placed for the express purpose of giving the fish an undue advantage over his captor, could not have been better planned. For a time the struggle went well with the angler. The fish, after the first rush, coursed up and down the river with becoming dignity, keeping deep down in the sullen current, until he began to feel the premonitions of failing strength. After several attempts to get amongst the broken and irregular materials of the embankment, from which he was skilfully coaxed and manœuvred, he gave unmistak-

able signs that he had made up his mind for what he evidently regarded in his trouble as the city of refuge. To consent to this, we had come to know by bitter experience some years before, was to lose the capital prize we had in hand by our tackle becoming entangled among the piles and wirework. Just as we were realising that we had reached the testing moment, the fish made a sudden and resistless rush for the piles referred to. We, with rod bent almost double, put on the entire strain, when, to our discomfiture and disgust, the line (not the gut) gave way a few yards from the top of the rod, and swept into the sullen waters, raising a spray as the broken line sped quick as lightning into the river. After that speechless stupor which none but the disappointed salmon-fisher can either imagine or describe had passed away, our first impulse was to endeavour to discover the cause of the disaster, which for the moment had assumed all the importance and interest of the breaking up of a Beaconsfield or Gladstone Administration. A few moments sufficed to explain what in other circumstances would have proved a mystery. On examination, we found that the line for some twenty or thirty yards of what still remained had, by the action of the water, been divested of the waxed coating, and had consequently become bleached and partially rotten. The loss of a 30-lb. newly run salmon is no small sacrifice for an angler to have to face; but if it should serve as a lesson

to induce our readers to guard against the neglect to which we have called attention, it will not be without its compensation.

Another contingency attending the landing of the salmon must not be overlooked. The angler must frequently be indebted to any passer-by or farm-servant in the fields for assistance in the operation of landing his fish, and it not unfrequently happens that through sheer nervousness by one unaccustomed to handle the gaff, the fish is scratched, which makes it desperate, and causes it to struggle violently, and very often at this juncture to make its escape. Another common though stupid error often committed by an inexperienced person, is to seize hold of the line with the one hand, as if to hold the fish steady till he gaffs it with the other. It is almost needless to say, that in the unyielding grip of the hand, and consequent tightening of the line, the struggle on the part of the fish sets it free, almost invariably carrying the hook along with it. In landing a salmon, when there is another party with a gaff or net, it is a mistake to bring it into too shallow water. The reason of this is obvious. So long as the entire body of the fish is under water, it is not so disposed to be restless as when brought into the shallow, where it becomes partially uncovered with its native element. Here great circumspection ought to be observed, and everything like excitement avoided. The party about to use the gaff should take care to

SALMON FISHING—GAFFING THE FISH.

come in stealthily behind the fish, as, the moment he is discovered, it, although apparently dead-beat, will frequently be found to summon its latent energies, and again make for the centre of the pool. Too much care cannot be taken to avoid touching the line, while the gaff should be gently slipped into the water a little above the middle of the fish, and the blow strongly delivered from beneath. The whole thing should be the work of a few seconds.

When the angler is alone, care should be taken not to attempt to land the fish until it is utterly exhausted and will allow itself to be floated quietly on its side to the water's edge. If at this juncture the angler can succeed in gently dragging or lifting the head of the fish on to the dry gravel or bank, and is able to keep the line tight so that the fish does not feel it to be relaxed, he may go forward and take possession without any misgivings. When the rod is laid on the bank, care should be taken to see that it is in such a position that, should the fish make a final effort to escape—by no means an unusual occurrence—the line will run out.

Owing to the construction of the eyes of a fish, we are persuaded that, as soon as its head is out of the water, its powers of vision are gone. This is a fact we have heard disputed; but let those who call it in question test it for themselves, and the result will be such as to constrain them to accept our theory as correct.

Some years ago we were curious enough to test our theory in a somewhat practical way. One summer afternoon, after a heavy rainfall during the preceding night, we stood on a ledge of rock at a well-known salmon-leap on the river Aray. The number of fish that were forcing their way up was simply incredible. Ever and again they ran right up out of the roaring cataract, and leaping out of the water within a few feet of where we stood, but failing in the attempt, fell back into the foaming current and were carried down into the pool. Again and again we recognised the same fish, from a white spot upon its shoulder, making repeated efforts before it succeeded, but in no case did we observe the slightest indication that our presence was discovered.

Before leaving this interesting subject, a few supplementary hints may prove of value to those who are not fully initiated. Try to discover from some local and intelligent angler the kind of fly which proves most successful as a lure; for, explain it as we may, fish will readily rise to one kind of fly in certain rivers, while they will not look at it in others. As the smaller fish generally ascend the rivers during the earlier months of the summer, we would recommend that the smaller and less gaudy flies be used early in the season, and that the larger and more gaudy flies be reserved for the larger fish, which, as a rule, ascend in the autumn months. Of course the volume of the

river must always be considered in determining the size of the fly.

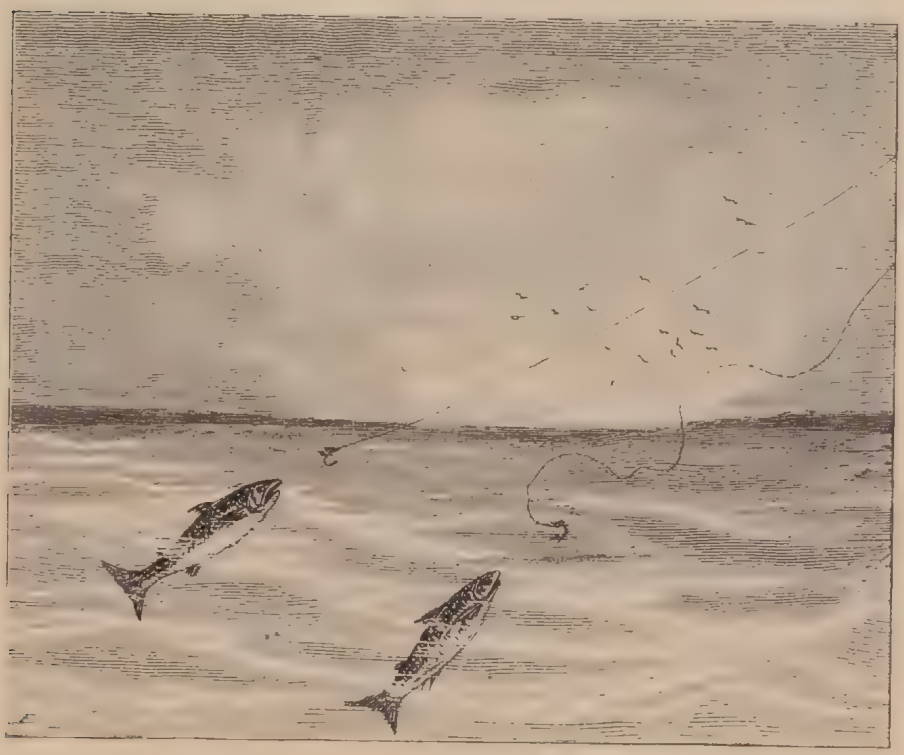
As previously indicated, Loch Tay furnishes an exception to this general rule. Here the fish ascend from the salt water on the earliest approach of spring, or as soon as the breaking up of the ice permits. As a rule, the largest fish killed by the rod in Scotland are killed in Loch Tay, it being no unusual thing to capture them between 30 lb. and 40 lb. weight. They rarely rise to a fly in that magnificent fresh-water lake, but are killed in large numbers in the months of February and March by trolling with the artificial and natural minnow and small trout. The capture of such large fish here has, however, its disadvantages. There is the severity of the weather to be encountered, aggravated by the inactivity to which the angler is subjected sitting in an open boat, and where, even with every protection of rugs and great-coat, the discomfort is extreme.

To resume the subject of angling in rivers, another important consideration is the manner of casting the line. Instead of casting right across in a straight line, and leaving the flies to be brought round by the action of the current, the salmon-fisher should cast at an angle down the stream, and take care that the line does not elbow round before the fly. As soon as the fly has alighted, he should, to the greatest extent possible, work the fly, with the point of the rod well down towards the surface of the water, in regular

and measured strokes: the length of the stroke, and the speed at which the fly is worked, must of course depend on the depth of the water, and more especially the action of the current. Unless when the water is a dead calm and somewhat clear, it is a mistake to work the fly too rapidly.

The length of the cast is a matter which must be determined by the skill and experience of the person using the rod. In no case should an angler throw out more line than that which he has thoroughly under control. It naturally follows that beginners should rest satisfied with casting a short line at first, and extending it as they acquire proficiency. This is too important to be disregarded if success in angling is to be attained. Those who persist in casting a longer line than they can control, have two disadvantages to contend against. There is the disturbance of the water, amounting sometimes to a sort of splash, the effect of which is to deter the fish from looking at the fly. There is also the disadvantage that when the fish does seize the fly, the line is slack to the extent of being sometimes nearly doubled, and striking the fish is simply impossible. This latter disadvantage has frequently to be encountered by the most experienced angler when casting with a long line, in a baffling wind, in a large river. In such circumstances, there is a remedy by which the disadvantage can be minimised—that is, by promptly pulling the line backward through the rings as soon

as the fly has touched the surface of the water. The advantages of fishing with a straight line, as contrasted with the disadvantages of a slack one, may be understood from the illustration subjoined.



Grouse-shooting.

CHAPTER IX.

GROUSE-SHOOTING.

The 12th of August is a "red letter" day in the calendar of the sportsman. None but those experienced in grouse-shooting know the amount of interest which characterises the conversation at the dinner-table the night before the Twelfth. The sport of the morrow is of course the theme of conversation, by which the young and ardent sportsman is wrought into a fever of excitement. The beat, the number of

cartridges required, the character of the dogs, and the probable bag, all fall to be discussed. Before retiring, the barometer has been examined, the sky scrutinised, and judging from these and the previous state of the weather, the programme of the morrow is conditionally settled. If everything indicates that the day is to be sultry and warm, and the head-keeper is thoroughly up to his work, he will recommend an early start. If, on the contrary, the weather is broken, and a wet day probable, he will recommend that the start should not be earlier than ten o'clock, as by that time a pretty correct opinion may be formed as to the prospects for the day. It is remarkable how correct intelligent and observant keepers and shepherds are in their prognostications of the weather. There are certain indications and conditions of the early morning which we have found as trustworthy, and frequently more so, than the rise or fall of the barometer. If, for example, when the weather is unsettled, *the early morning* is marked with clear sunshine, and the clouds are scattered and broken, it may generally be predicted that the sky will become dull and dark during the forenoon, and very frequently rain will set in about mid-day. On the other hand, if the morning should prove grey and dark, with a uniform sky, and the sun, as if somewhat reluctantly, begin to peep out about the early breakfast-hour, a dry and enjoyable day for the sportsman may, as a general rule, be calculated upon. These remarks do not apply when a course of good

weather has set in, and which during the months of August and September not unfrequently prevails for several weeks in succession. On such occasions, when the sun runs its course in the heavens without intervening clouds to obscure his rays, the weather, except at intervals with a sharp breeze, will be found sultry and warm. In these circumstances, it is advisable that the sportsman should start early, and rest several hours in the middle of the day when the sun is at its height. It is as essential for the sake of the dogs as it is for the sportsman, as the scent is invariably better in the morning and as evening advances. This is to be attributed to the grouse basking in the sun and moving little about during the heat of the day; whereas, as the afternoon wears on, they begin to move about in search of food. A soft breeze generally springs up as the afternoon wears on; and when this is the case, it is surprising how dogs jaded with hunting on a steep hill and under a burning sun, become inspired with fresh vigour.

Reverting again to the evening before the Twelfth, those sportsmen who have had experience retire early to rest, knowing the importance of a good night's sleep for sustaining them through the fatigues of the following day. The young and ardent enthusiast also retires, but with him sleep is out of the question. In vain he closes his eyes to outward things, as the thoughts of dogs, guns, and grouse haunt his imagination.

A sportsman of this type with whom we are ac-

quainted having gone to bed, tossed restlessly about till the short hours of the morning, when he suddenly recollected that for two nights previously, while perusing the pages of Darwin, he had fallen asleep. Turning this grand discovery to account, he sprang out of bed, searched for the volume, and began diligently to read. This, however, like many other modern discoveries, proved a failure when put to the test: Darwin and his doctrine of evolution failed to induce sleep, while the glorious achievements of the coming morn exercised his active and excited brain until the early dawn. He had, however, the credit of being the first on foot, clamorous and impatient for breakfast and an "early start."

Sportsmen of this character are as a matter of course ill prepared for the fatigue of a long day on the moors when contrasted with those who rise refreshed, and who, opening fire in a cool, business-like manner, invariably succeed in bringing home the heaviest bags.

Gentlemen who have for months previous to the commencement of the shooting season been attending to their parliamentary duties, or who have been unremittingly engaged in commercial or literary pursuits, are physically unfitted for prolonged exercise on the moors. We would therefore recommend that, where it is possible, a few days should be devoted to angling among the lakes and mountain-streams. If a couple of hours' sharp walking should be required to reach these from the lodge, it will be all the better,

even should they have to travel a few miles homeward at the end of the day. By this means they would prepare themselves by a process of training, at once practical and enjoyable, for the toilsome exercise amid the moors and mountains. By strict attention to this salutary recommendation, the real enjoyment of the Twelfth would be vastly augmented, and the sportsman might escape that sense of overpowering fatigue which so frequently detracts from the real pleasure of the first two or three days of the season.

The next consideration, and by no means an unimportant one, is, How and where is the sportsman to hunt? It is not enough that he has before him a good beat well stocked with birds, and high-bred well-trained dogs. We have known sportsmen in possession of all these requisites, who, from want of personal knowledge, or through the stupidity of an ignorant keeper, have their temper chafed and their day's enjoyment destroyed. In order to avoid these serious annoyances and disappointments, a knowledge of the ground and an acquaintance with the habits of the birds are most essential. When grouse are plentiful on moors which are carefully burned, and where springs and streamlets abound, they may be found anywhere and at any time. It is, however, where birds are scarce, and the ground not so favourable as here described, that a knowledge of the habits of the grouse proves of much advantage to the sportsman. Should an early start be made, the birds will be found on the feeding-ground—that is, on heather

THE FIRST INDICATION OF DANGER.

of two or three years' growth. They generally repair to such places in the early morning to feed on the young and tender shoots; and if heather which is more rank be in the neighbourhood, they will run into it to conceal themselves on the first indication of danger, where they may remain till their whereabouts are discovered by the inquisitive nose of the pointer. As the day advances, particularly if the sun be hot, they betake themselves either to the banks of streams, or to ground interspersed with ferns, bog-myrtle, &c., where they are often found when splendid patches of heather have been hunted in vain. As the evening approaches, they again repair to the feeding-ground. After having fed, they generally, about an hour before dusk, resort to their roosting-ground for the night. Should the sportsman, from any one of the numerous causes which render his day's work sometimes unproductive, or from his reluctance to return home without a good bag, be desirous to continue the sport, we would remind him that now is his opportunity. Let him start with fresh resolve, and follow the coveys to their resting-place, where, after being gorged with their evening meal, they will lie like stones, until flushed one by one at the nose of the dog. Unless he be a most indifferent shot, he will in such circumstances have no difficulty in securing a good bag.

We once heard a sportsman who had studied grouse-shooting say—"If I really wanted a heavy bag, I would not give the last two hours of the

day—that is, from half-past six to half-past eight in August—for any other six hours of the day." He, however, remarked, "that the fatal work done during these two hours with a good dog, partook more of the character of slaughter than of real sport. Rather would I bag twelve brace of grouse in the month of September or October, with their fine feathery legs and beautiful plumage, than thirty brace shot under such circumstances."

Should the day be wet, the difficulty in making a bag is much greater. The grouse instinctively get on high and dry ground or bare "nobbies," where they sit motionless, so that the rain runs off them, aided by the natural lubrication of the feathers; consequently they do not get so wet as if their feathers were subjected to contact with the wet cover. From their elevated position they can observe the approach of men and dogs at a distance, generally taking care to be off before the sportsman can get within range. When such is the case, or at any time when birds are wild, if a good bag be desired, the ground should be hunted in a systematic manner. Care must be taken that the ground in all cases be hunted against the wind, and when the dog points, to keep him in advance, so that the birds may be driven forward, when the probability is they will be fallen in with again. Even wild birds, when driven forward two or three times, will often separate and sit to the dog, and be easily bagged. Here it is important to observe that care must be taken to hunt the beat invariably from the

boundary inwards, unless where the moor is so extensive as to render this precaution unnecessary.

When birds are wild, many sportsmen nowadays use "Dart's kite," and keep it flying over the part of the moor being hunted. When, as a rule, coveys of grouse take wing long before they can be got near, single birds or pairs will lie like stones under the "hawk," and thus the sportsman gets within easy range. When flushed, however, they dash off at such a pace that it requires an expert shot to bag them.

Quietness during grouse-shooting should be rigidly maintained. We have often seen the moor cleared of birds for a radius of several hundred yards by people continually calling or whistling to their dogs. This to a real sportsman is simply intolerable. Many argue that speaking or whistling does not frighten grouse so much as the report of a gun. This is a mistake, as we shall have occasion to demonstrate when dealing with grouse-shooting among corn-stooks in a subsequent chapter.

There are few conditions which the genuine grouse-shooter will more rigidly insist upon being observed while on the moor, than that of silence. Let us accompany a shooting-party thoroughly up to their work, and contrast their quiet business-like demeanour with that of the noisy and demonstrative amateurs, and we shall perceive at a glance how desirable it is that unnecessary hubbub or noise should be avoided.

Two gentlemen agree to shoot together, and after a

hurried breakfast, jump on their ponies or into their trap. The moor is reached, keepers and dogs are awaiting them, guns are taken from their covers, cartridges from the panniers, and all is ready for a start. The dogs are standing in the couples trembling with nervous excitement, and pulling with all their strength in their eagerness to be let off. Let "Grouse" and "Nell" go, and the gillie in prompt obedience uncouples them. They are for off at once, but the word "down" reminds them they must wait till they get the order to start. Hold up "Grouse," and with a wave of the hand to the right he is off at a rapid pace. "Nell" is signalled to the left, and promptly starts accordingly. Being jealous of "Grouse" finding birds before her, she turns quickly, evidently afraid that he will have anticipated her in finding game. She sees him galloping still on the search, follows him for a second or two, and then, as if determined to have the first point, takes a sweep round for herself. They range on both sides, quartering their ground and crossing each other with remarkable precision. In turning, "Grouse" finds himself close upon game, and drops in the heather as if shot. Hush! the old cock's head appears above the heather; he sees the danger, and means to be off. "Nell" has turned, and is coming right down on them. She will not get the wind of them, and seems almost certain to put them up. To cry "toho" is in all likelihood to result in the birds taking the hint and making off. Fortunately, she catches sight of

"Grouse" crouching among the heather, and in an instant is as motionless as a statue. The old cock, seeing the danger on both sides, squats down in the hopes of being unperceived. The sportsmen walk up to the dog, one on each side, and by encouraging him forward, he crawls on his belly for a few yards, when up starts the covey. The old cock, as is customary, has by this time got ten or twelve yards ahead of the brood, is the first to rise, and consequently the first to fall. The other three barrels are discharged in rapid succession, when it is found that the old hen and two young birds have also fallen before the well-directed fire. The guns are loaded, "seek dead," and the dogs are not slow in finding them. They are picked up and admired, and taken charge of by the gillie. If the party choose to follow the flight of the remainder of the covey, they may also be bagged without much difficulty. It is in such circumstances that the advantage of singling out the old birds—more especially the old cock—at the first rise, is apparent, as the young birds become scattered, and will sit so close as to admit of their being put up at the very nose of the pointer. It is at this point that the keeper discovers for the first time the character of the sportsmen. If gentlemen who have been frequently on the moors, the first shot will be directed against the old cock-bird by the gentleman on the right or the left, as shall be determined by the rise and flight of the bird. Again, the remaining shots will in like manner be directed against the out-

side birds, each gentleman taking care that there shall be no cross-firing, but that he shall confine his attention to the birds rising on his own side. If experienced sportsmen, the birds will also be allowed to fly a reasonable distance before the gun is lifted to the shoulder, so that while shot dead, they shall not be unnecessarily injured. They walk on slowly, taking care that every available bit of ground is carefully hunted, and that the dogs have sufficient time to quarter their ground. They are always ready, and when birds rise unexpectedly, owing to bad scent or other causes, they are not taken at a disadvantage, and thus a brace or two are generally added to the bag. When a single bird rises to the dog, as already indicated, it belongs to the sportsman to whose side it flies. We have often, however, seen a single bird rise and fly straight away without being fired at, neither sportsman wishing to deprive his companion of a shot. This, we consider, is studying etiquette a little too much, and ought to be remedied by an agreement that doubtful birds should be shot alternately. Care should be taken that the birds when shot are carried by the legs in the hands of the gillies for some time, so as to allow them to cool, and that they may be packed neatly and carefully into the panniers. This to some may not seem of any importance; but a sportsman only once requires to see the baskets emptied after a day's shooting, to notice the difference between birds carefully packed, and those tossed in by a careless and inconsiderate gillie.

When the sun is at its height—generally about one o'clock—sportsmen usually sit down to lunch. A place is usually selected by the keeper in a hollow by some limpid mountain-stream, and where there is a cool spring bubbling up from its channelly bed or gurgling from beneath its rocky bank. The relish with which sportsmen enjoy their lunch during the glorious month of August in such circumstances, is known only to those who have been privileged to realise it. The time allotted for lunch is generally not less than an hour, and, as a rule, is occupied with an agreeable chat; while among smokers "the weed" is sometimes profusely indulged in.

As the success and real enjoyment of the afternoon's sport are sometimes determined by the character of the lunch and liquors partaken of, we shall have something to say on this subject in subsequent pages.

After an enjoyable rest—the duration of which may be extended should the heat of the day be oppressive—the party again fall into line and recommence their sport. For a little, unless fresh dogs are uncoupled, the pointers will appear stiff and rather lazily inclined; but if they have been brought into good condition before the season, they will, on finding game, be inspired with renewed energy. If fresh dogs are let loose after resting at mid-day, so much the better. Where this cannot be done, the dogs while resting may be indulged with a sandwich or a piece of bread; as it is scarcely to be expected that a dog which is only fed each night—once in the twenty-

four hours—however willing, can stand out for eight or nine hours without nourishment.

It is in the afternoon, when the sun is past the meridian, that the sportsman frequently finds exercise on the mountain-side or around the base of some heathery corrie most enjoyable. At the same time, it is generally from two to four o'clock that complaints of the scarcity of birds are most frequently made. How often has the question been put by gentlemen who are not mere novices in grouse-shooting—How comes it that it so frequently happens that there are so few birds to be seen at this time of the day? It is obvious that it is not because the birds are fewer in number upon the moor, but simply they are not to be found in the places where they are sought for. As previously explained, during sultry weather, and in the middle of the day, grouse, as an invariable rule, betake themselves from the high ground in large numbers to the banks of burns, or ground interspersed with ferns, bog-myrtle, &c. While good average sport may be relied upon, even by those not fully acquainted with the habits of grouse during the afternoon, it is, as already indicated, when evening approaches that they can be more easily fallen in with. The scent at this time becomes better, and as the birds are scattered about feeding, they are more readily picked up by the dogs. If on a beat near the lodge, sportsmen will frequently shoot homewards, and unless in view of some definite arrangements, will generally be guided by circum-

stances as to the hour of their return. If engaged on a beat several miles from home, however, arrangements will have been made to meet at an appointed place at a given hour, where the trap and horses will be in waiting to receive them. Punctuality in such cases ought ever to be studied, so that everything like irritation and annoyance may be avoided, owing to any of the party being kept waiting—by no means an unusual occurrence. Attention to this simple rule will contribute in no small degree to the winding up of an enjoyable day's shooting. At the close of such a day's sport as we have indicated, the trusty keeper will realise a sense of relief; while his duties, although arduous, will partake more of the nature of enjoyment than of toil.

We have thus had a fair picture of grouse-shooting by gentlemen fully up to their work; but there are always two sides to a picture, and lest it should be supposed that we present grouse-shooting in too flattering a light, we shall look at it from another point of view. Let us accompany a party of amateurs in their first grouse-shooting expedition. After a deal of noisy clamour and delay at the kennel as to which dogs Mr So-and-so is to shoot over, &c., &c., a start is made, and the moor is ultimately reached. The dogs are let loose, and the sportsmen are all excitement, eager and impatient as to who is to shoot the first bird. Shortly the dogs find game; and the sportsmen, without due consideration, are close behind them, and not unfrequently in advance. Immediately on

the birds rising, it will not be surprising if four barrels should be discharged in one simultaneous rattle, and the old cock-bird be seen winging his way without injury from the scene of action, while only one young bird shall be found to have suffered from the four or five ounces of shot which have been discharged without regard to rule or reason. In such circumstances the enraged keeper will not require to pick up the mangled remains of a young bird which has been shot down within a few feet of the muzzle of the breech-loader, to satisfy him that he has fallen into the hands of unskilled sportsmen. A friendly contention as to who shot the bird will more than likely follow; and on the keeper being appealed to as arbiter, he will by this time have discovered that unless a change of procedure be adopted, his hands will be sufficiently full and his temper more than sufficiently ruffled during the next few weeks. Indeed his concern will not be so much as to how the grouse are to be shot, as to how he, his gillies, and his dogs are to escape the danger to which they must necessarily be exposed. On the guns being reloaded, the sportsmen, in spite of the remonstrances of the keeper, walk straight ahead at a rapid pace; the consequence being, that the dogs, not finding time to quarter their ground as they have been taught, and observing the hurried and excited look of the sportsmen, often become wild and unmanageable. But the management is not left to the keeper, whom they

understand and are accustomed to obey. All the field are calling or whistling to them. They are sent in every direction, and "downed" at the first feathering on the scent. At length they get distracted by the number and variety of voices and orders, and in the endeavour to obey everybody displease all.

It is surprising how quick dogs are to discover when they have the misfortune to fall into the hands of rash and inexperienced gentlemen, and how prompt they are to take advantage of the want of discipline. In the summer of 1881 a neighbour had a very handsome, well-bred, black-and-white young setter. He asked us as a favour to give it a few lessons, as our doing so would greatly enhance its value. After giving it its preliminary lessons, we took it into the fields among partridges, and having a splendid nose, it very soon began to point, only requiring experience to make it a good dog. On our pronouncing it "very promising," a gentleman purchased it for partridge-shooting, and gave it on loan to a friend to use it on the moors till partridge-shooting commenced. It behaved as well as any young dog could be expected to do on the moors, being in the hands of a practical keeper who knew how to work and manage dogs. On going to its owner, however, it behaved otherwise, and in a comparatively short time hunted of its own accord, without paying the least regard to its master. The consequence was, to use the words of one of the gentlemen who shot over

it, "it was the most useless brute I ever saw in my life."

Another peculiarity which young gentlemen ought to guard against is the tendency to get impatient and unduly excited when the dog points. How often have we seen sportsmen hurry up, jealous of each other getting the first shot! they flush the covey, and instead of selecting the old birds, which generally rise first and farthest off, they blaze away at the body of the covey, or the nearest birds; and if one happens to fall, not only is it rendered useless by being shot too near, but a contention arises which of the two killed it. Instead of standing still loading their guns, and keeping the dogs down till this is accomplished, they walk on, loading the while, the birds generally rising in advance, and, as a matter of course, getting off quite scathless. Under such circumstances dogs are necessarily taught to run in, and acquire habits which frequently render them comparatively useless.

Last year we had a splendid Gordon setter sent us to get completed in its education. It had previously been in good hands, and trained with a due regard to sound principles of action. Being young and full of spirit, it showed a *very slight* disposition to mouth its game when shot, although in the most harmless manner. This arose not from any waywardness or bad habit, but was simply an indication of the interest it felt in the sport. The setter went out with two young gentlemen for a fortnight's grouse-shooting.

The keeper having accompanied one of the party for a couple of days' salmon-fishing, the other called upon the groom to act as his substitute while absent. On the keeper's return he was surprised and annoyed beyond measure to find that his splendid and well-trained setter appeared to have assumed command of the shooting-party. Not only did it run in when birds dropped, but chased a wounded hare with all the alacrity of a retriever. He was not slow to perceive that his dog had been, for the time being at least, spoiled by the ignorance and stupidity of the groom. On returning home he took him sharply to task, but was told with the utmost complacency, that instead of being found fault with, he expected to have been thanked for having greatly improved the training, and consequently enhanced the value, of the dog. "The first day I took out your dog," said the groom, "it would neither catch grouse nor hares, but stood still, even although the hare was wounded. Now, however, as I shall show if you put it into my hands, it can not only catch wounded grouse, but it will beat a broken-legged hare, and having caught it, will bring it to me like a Newfoundland. That," he then indignantly added, "is all the thanks one gets for making the dog carry, which I am certain it never did till hunted by myself."

Returning again to the sportsmen: they walk on as fast as they are able, and should birds happen to rise unexpectedly, without the dogs pointing at them —which is frequently the case when they do not get

time to quarter their ground—they are not ready, and often attribute the blame to the useless dog for not pointing. As may be expected, they are very soon at the end of their beat, when the keeper tells them they will have to turn back. By turning, and hunting down wind, their difficulties increase. The dogs range wider, and put up more birds, which does not improve the temper of the ardent and excitable youths. The want of success, which must ever be the result of this system of hunting, becomes most discouraging, while the want of sleep the previous night, and the continuous walking, render rest not merely desirable but necessary. Arrangements for luncheon are made, in the enjoyment of which the indifferent sport and the meagre bag are forgot for the time being. Many amusing incidents occur as the result of such expeditions. Mr Charles Cowan, in his recent volume, relates an instance of a gentleman from London who was shooting with him on the estate of Auchendinny. A hare rose in a stubble-field, when he cried out, "Mr Cowan, shoot that fawn!" So limited was the knowledge of this London youth as to either field-sports or natural history, that he was incapable of discriminating betwixt a hare and a young deer. Indeed there are many young English gentlemen who, when they first come down to Scotland, are unable to distinguish the red grouse from young black-game, and even from partridges. An amusing case of this kind came under our notice some years ago. A gentleman with whom we are acquainted was shooting on a grouse-

moor in the south of Scotland. He was accompanied by a friend from London, who had never seen grouse-shooting before. Being rather stout, he complained of the hill being too steep to climb, and he contented himself by staying near the bottom. He therefore, with a gillie, walked about the foot of the hill among rank patches of ferns, where he got plenty of shooting. His companion, hearing so many shots, was afraid he had fallen in with a covey of black-game, and was probably not aware that it was illegal to shoot them before the 20th. He therefore turned back to him and asked what he was shooting at, and was answered that he had found lots of grouse, but he "couldn't 'it 'em." Not being exactly satisfied, he went to the gillie, who was some distance behind, and said, "Donald, are those grouse, Mr —— is shooting at? they are not black-game, I hope?"

"'Deed no, sir," replied Donald, "they're naether groose nor black-cocks—they're just thae hill blackies [the rock ousil]; but he thinks they're groose, and I dinna want tae spoil his sport by tellin' him sae; an' as there is little fear o' his killin' ane, he hasna muckle chance o' findin't oot."

To return to our amateur sportsmen: they are so overcome by fatigue and thirst that they cannot eat, but indulge freely in whisky-and-water in the hope of being thereby refreshed. In such circumstances as those we have described, there is no undue haste to resume the sport. The hours of continuous walking spent during the forenoon, the unmanageable conduct

of the dogs, and the few birds bagged, have had a wonderful effect in cooling the enthusiasm of the party of amateurs. It is unnecessary to add that the afternoon's result will be no improvement upon that of the earlier part of the day, and will account for their being first off the moor and earliest in the lodge, not unlikely planning for a day's fishing or rabbit-shooting on the morrow.

The practice of using intoxicating liquors while shooting is a very common, but certainly a most foolish one. Upon this subject we can speak from experience—having for many years been actively associated with shooting-parties on some of the most extensive and best grouse-moors in Scotland, and having uniformly acted on the practice of abstaining from spirituous liquors. The result has in every respect been most satisfactory. Not only were we able to undertake as much work as any others, but at night were less tired than those who indulged in strong potations. We usually took out a good lunch and a bottle of tea, which helped to slake our thirst and make the lunch enjoyable. We were then quite fresh for the remainder of the day. Let not, however, cream or milk be put into the tea, as it gets curdled, and renders the beverage quite undrinkable.

While cold tea is most enjoyable to those accustomed to its use, we confess that there are others who regard it in a very different light. A few years ago a gentleman of our acquaintance, who invariably had his flask filled with tea in preference to spirituous

liquors, invited a friend to a day's grouse-shooting on the Lammermoors. The party drove from a town—some ten or twelve miles' distance—in a hired machine, the driver of which had been on the spree for two days previously. After having the horse stabled, they set out for the moor,—the gentleman sending the keeper to accompany his friend, while he utilised the drouthy driver for his gillie. During the day the heat was excessive, with a blazing sun overhead. He sat down to lunch with his gillie, whose throat was literally parched, and his lips cracked and stiffened by the dreadful thirst occasioned by the previous debauch, and aggravated by the intense heat. The sportsman, after a draught from his flask, addressing his gillie, said, "Driver, would you like to have a swill from my flask?" He promptly replied, "Thank you, sir—I am dying *for something;* but you are far too kind, as it is not often brandy comes in my way." The gentleman, holding the beautifully clear metal cup in the one hand, poured the red-coloured liquor from the the flask. Glittering in the sun, the coloured liquid gurgled into the cup, resembling in reality genuine brandy. The liquor, as it was poured into the cup, had so whetted the appetite of the temporary gillie, that he clutched it with a greedy hand, and in an instant it was being poured down the throat of the victim of that aggravated thirst to which happily even ordinary tipplers are strangers. The effect on the poor wretch may be conceived, but never adequately described. Handing the cup, with an evident feeling of disgust,

to the gentleman, and with an air of offended dignity, he said,—"Ca' ye that brandy? I tell you, sir, it's the most abominable stuff ever crossed my craig, an' I have been dabbling in a' kinds o' drink for the last thirty years."

Above everything, mossy and peaty water is carefully to be avoided. If used freely, there is a tendency to diarrhœa, which ofttimes proves exceedingly injurious, and not unfrequently, more especially to delicate sportsmen, really dangerous.

There is no greater fallacy than the belief that spirituous liquors are beneficial to sportsmen. True, they will produce a temporary excitement which is apt to be mistaken for renewed strength, but it will ultimately be found that the supposed benefit is visionary, and of short duration. We believe that here lies the secret why many sportsmen who have done admirable execution during the fore part of the day, frequently become wearied, and fail in maintaining what they are pleased to call their "good luck" after lunch. As this is a point upon which, naturally, a diversity of opinion exists, we adduce the testimony of those who, we presume, will be accepted as competent to express an opinion.

Captain Webb, the famous swimmer, who perished in his foolhardy attempt to brave the resistless current of Niagara, in giving his experience, after swimming across the Channel, said "that he well-nigh failed in swimming from Blackwall to Gravesend

in consequence of having been induced to partake of a limited quantity of brandy."[1]

Weston, the great walker, whose powers of endurance and feats as a pedestrian are so well known, coincides in the testimony of Captain Webb on this point. When engaged in his great walking feats, he not only rigidly practised abstinence from spirituous liquors, but inculcated the practice upon all who aspired to excel in pedestrianism or athletic pursuits. Mr Hanlan, the champion sculler, speaks in no less decided terms. He says: "In my opinion the best physical performances can only be secured through the absolute abstinence from the use of beer or spirits."

However slow a certain school of philosophers may be to admit the truth here stated, it is one which boat-rowers, pedestrians, pugilists, and acrobats have long since ascertained and turned to practical account.

Then as to steadiness of aim: it is a well-known fact that Cameron of Inverness-shire, the great rifle-shot, is, and has long been, an abstainer from alcoholic stimulants.

Horatio Ross, the veteran deer-stalker, stated publicly to the Lord Provost and Magistrates of Edinburgh in the Parliament House, on the occasion of the reception of the Elcho Shield, which had been gained by the Scottish Eight, that "each of the successful competitors was strictly temperate, and I

[1] Medical Temperance Journal, April 1879.

never knew a good marksman who was otherwise than temperate."

However much men may differ as to the effects of alcohol as an invigorator, there are few who will not admit that the experience of those whose testimony we have adduced, and who have attained such pre-eminence, is well entitled to consideration.

There are no circumstances in which artificial stimulants are less required than while luxuriating in the autumn months amid the pure air and peaceful solitude of our Scottish moorland.

A Moorland Scene.

Grouse-driving.

CHAPTER X.

GROUSE-DRIVING.

Why grouse are more wild on the moors in England, and in the southern counties of Scotland, than they are in the Highlands, is a subject upon which there has been much discussion. It is a fact that in Ross-shire, Caithness, and the more northern counties, they will sit to dogs all through September, and even into October; while in the counties south

of the Forth, after the first week, it is almost impossible to approach them with dogs, more especially if there has been a few days' rain. Where the moors are level, and the grouse can easily observe the approach of the sportsman, it is not difficult to discover their reason for taking wing. At the same time, in the hilly districts of Peeblesshire, and elsewhere, they are much wilder than in Perthshire and Invernessshire. On the Lammermoors they are exceptionally wild. After a lengthened experience and a pretty intimate knowledge of the habits of grouse in most parts of Scotland, we know no district where they are more proverbially wild than on the Lammermoors. We have seen them in the month of July, when not much bigger than sparrows, rising out of shot, and taking flights for a considerable distance. On bare ground, and where the heather is severely burned, this is easily accounted for, but on some of the fine heathery ridges of the Lammermoors it is difficult of explanation. Guided by strong natural instinct, grouse are remarkable for discrimination in their selection of places suitable for their concealment. For example, on white benty ground, notwithstanding that the cover may be sufficient to conceal them, they do not squat as they do in heather. They seem instinctively to know that their dark colour would be easily observed among the light bent. Some account for their being more wild in the south by the shepherds being almost constantly on the moors driving the sheep to and fro, and thus disturbing them.

This explanation is inadmissible, as in many places in the north the shepherds are as much on the moor as in the south. Others attribute the reason to the variable climate. At that season the temperature is almost uniform, so that this explanation is also at fault. If any weight was to be attached to this theory, the result should be the very opposite, seeing that on the Grampian range the atmosphere, even in the summer months, is more cold and changeable than in most parts of Scotland south of the Forth.

Owing to the difficulty in approaching grouse on the moors in the south, driving has in many parts been resorted to. Where the moors are level, this mode of grouse-shooting can be pursued with success. On mountainous regions it is more difficult, as the birds are apt to fly across the glens to the hills opposite. The moors in Yorkshire, Derbyshire, and the Midland counties being generally level, are peculiarly adapted for this species of sport. In order to success in driving, it is desirable that the sportsman keep out of sight. To attain this, "grouse-forts" or "driving-boxes" are generally put up, behind which the sportsmen conceal themselves. These places of ambush are usually built with heathery turf to the height required, and are generally formed in a semicircle, to make an effective hiding-place. They should always be put up in spring, so that the grouse may become accustomed to them. It not unfrequently occurs that they are taken advantage of by the mother bird in protecting her offspring from a storm, and are

consequently approached when the young birds grow up without dread of danger. The "boxes" should be built about a hundred yards apart, and in as direct a line as possible. As a general rule, they are much over a hundred yards apart; but when there is much shooting going on, and the day still, the "boxes" become enveloped in smoke. In such circumstances the birds very naturally fly between them, and thus elude the sportsmen. Only those who have accompanied the drivers have had the opportunity of observing this. On one occasion, in Perthshire, we went among the drivers with a retriever to try and pick up some birds which had been wounded on the previous drive. The coveys flew forward in fine style; and, judging from the incessant fire of the guns, we concluded the gentlemen were getting excellent sport. As we drew nearer the "boxes," we observed covey after covey rise; and they, seeing the clouds of smoke which hung about the "boxes," flew straight between them. On getting up, the sportsmen had all the same story to tell, that plenty birds had passed them, but somehow or other very few had passed within range, though some of them had been lucky in making a few long shots. It will thus be seen that had the "boxes" not been over a hundred yards apart, few birds would have passed beyond range. Grouse-driving is not unfrequently resorted to when no "boxes" have been erected—the guns being placed behind stone walls, and in peat-hags and gullies, which can generally be turned to good account by well-disciplined sportsmen.

In all such cases we would recommend that the guns should be so placed that those using them may have a good view of the birds as they come forward.

The great disadvantage of grouse-driving is, that many of the birds are wounded, and escape to die a lingering death. The difficulty in shooting driven birds being much greater than over dogs, unskilled sportsmen are very apt to shoot into the centre of a covey at a long distance, and thus wound half-a-dozen birds for every one they kill. This ought studiously to be guarded against, as it is cruel in the extreme. If sportsmen would shoot with pointers the day following a drive, they would be surprised at the number of dead and wounded birds they would fall in with. This shows how essential it is that each party should have a good retriever, and after having picked up all that have fallen within range, to hunt a long way in the direction of the flight of the birds.

When the wind is in their favour, grouse fly with amazing rapidity. Sportsmen should endeavour always to shoot the first barrel when the birds are coming to them—as, when allowed to pass before firing, it is very difficult to stop them. A gentleman of our acquaintance, when shooting in Yorkshire a few years ago, killed a grouse coming with the wind at a great pace. Although killed dead, the momentum was such that it struck the muzzle of his gun, which passed through it, while it stuck upon the barrels like a joint on a spit.

When the "boxes" are placed in line, care must be

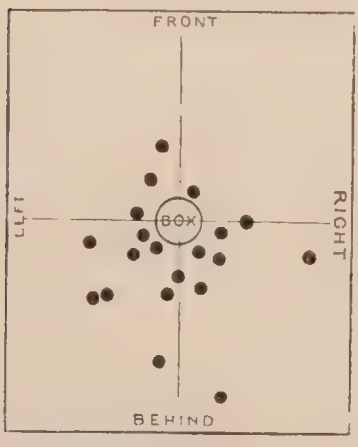
taken that the birds are shot either as they come forward, or after they are past. This rule ought to be scrupulously attended to, although we regret it is too frequently disregarded. A gentleman, while grouse-driving a few years ago in Forfarshire, was intent watching a covey which was coming towards him. The sportsman in the adjoining "box" shot at a bird in a direct line with the one referred to. The pellets struck the gentleman, but not on the face, and fortunately did not penetrate his heavy tweed suit. The covey he was watching came close to him, and after firing both barrels, he turned round to the keeper for the loaded gun. Imagine his dismay to find him lying in the bottom of the "box" insensible, and the blood oozing from several wounds in his face. This is no solitary instance, as it is by no means uncommon for an amateur to get so excited as to blaze away even when the birds are in line with other "boxes." There are few sportsmen who have had much experience in grouse-driving that have not been struck by the shot of some reckless gunner. We therefore repeat, that the rule indicated cannot be too peremptorily insisted on. To neglect it is danger to life.

In grouse-driving, the length of the drive depends a good deal on the nature of the ground. We do not approve of too long drives, as birds which are driven forward soon after the drivers start, are apt to settle before passing the "boxes"; and it is frequently the case, when they see the sportsmen stand up to shoot, that they fly back over the heads of the

drivers rather than face the guns. When grouse are wild, they are much easier driven than at the early part of the season, when they both sit closer and take shorter flights; hence it is advisable not to drive them too early. Indeed grouse-driving should be deprecated under any circumstances, or in any district, so long as a fair bag can be obtained by reasonable exercise. To real sportsmen grouse-shooting loses half its charms when not associated with a moderate amount of physical exertion. The drivers should advance in crescent form, so that by those on the right and left wings the birds may be prevented from breaking off at either side before reaching the guns. Each driver should have a flag tied to the end of a stick, and wave it about when he observes birds rise. The grouse being quick-sighted, are not slow to perceive this, and as a matter of course fly in the opposite direction. By driving birds often, they find out the danger of passing the "boxes," and thus learn to fly shy of them. We have here an illustration how nature provides against the extermination of grouse, by enabling them to meet in some degree the artificial devices by which sportsmen seek to compass their destruction. In like manner, we have seen the devices of the Highland poacher or mercenary game-killer defeated, by the birds becoming wary, after they had unsuspectingly suffered by his driving his cart or machine a few days in succession along the moorland highway.

In the excitement of watching the birds coming,

and shooting, it is rather difficult to note where they fall, particularly if many are down. If, say, a dozen are down all round the "box," and the heather anything rank, it is no easy matter to have them all picked up. If the loader is up to his work, he will have a slate or piece of paper with a plan of the "box," on which he will mark down the number of birds killed, and if near the "box," or far away, thus—



We have found this of great service, as by making a mark for every bird that is killed, it not only records the number, but is a guide where to look for them. Of course there are numbers of winged birds which no one expects to find just where they fell, and it is here that the services of a good retriever are requisite. A few years ago we had a dog which was very fond of this sort of sport. He was often admired for his sagacity in sitting behind the "box" and watching every bird that fell. Being thoroughly up to his work, he never moved from behind the "box" till he was told, or till he saw the drivers come forward. At one time, when shooting in Yorkshire, the gentleman in the adjoining box had a young retriever bitch which required to be tied during the drive. Somehow or other she had got loose, and coming in the direction of our "box," picked up one of our birds

and made off with it. Our retriever, determined not to stand such injustice, gave chase after her, growling and barking all the way. He caught her before getting up to her master, and subjected her to somewhat rough treatment as a punishment for her thieving propensities. He then picked up the bird, and promptly returned to his own "box."

On some of the moors in England two sets of drivers are employed, so that directly the first drive is over, the gentlemen turn round and face in the opposite direction, when the second lot of drivers come forward. While this is being done, the first lot start for another beat, to be in readiness, so that little time is wasted, shooting being almost continually kept up, except during the time the gentlemen are riding to other "boxes." The number thus killed in a day on some of the moors in England is almost incredible. Lord Walsingham, on 28th August 1872, to his own gun, on Bluberhouses moor, in Yorkshire, killed 421 brace of grouse. This feat, however, we believe to be unprecedented in the annals of grouse-shooting.

As a drive generally lasts a considerable time, a bird winged soon after the commencement has the opportunity of running a long way before the dog is sent in search, and is consequently difficult to find. Should it happen to rain, the difficulty is increased, in consequence of the scent being speedily obliterated. When birds are lost in this manner, the best plan is to go as far leeward as there is a probability of the

bird having run, and then to hunt all the ground carefully against the wind.

It is specially important that the sportsman take care that the barrels of his gun be kept out of sight, as they glitter and flash in the sun like a mirror, and can be seen at a long distance. Grouse are not slow to discover any movement in the "box," when they will to a certainty fly shy of it. While grouse are ever quick thus to perceive danger, it is remarkable how indifferent they are to the report of a gun so long as the party using it keeps out of sight. As already observed, those who conceal themselves in corn-stooks, and await the grouse coming from the moors to feed, often get several shots before the covey takes wing. The effect of the first shot or two only makes them put up their heads and look round, or fly on to an adjoining stook, and when they see nothing they will frequently recommence feeding.

The ease with which grouse may be killed in large numbers by cautious and expert shots in such circumstances is surprising, more especially should the weather be dark and drizzly.

A few years ago, during a very late harvest, an English gentleman, the lessee of a grouse-shooting in the south of Scotland, required for a very special occasion a number of grouse. His keeper felt it impossible to obtain these on the open moor. His instructions, however, must, if possible, be given effect to Having obtained the co-operation of an adjoining keeper, the two found it necessary to adopt the ex-

ceptional course of resorting to a corn-field, in the centre of several thousand acres of a splendid grouse country. After an early breakfast, they took up their respective positions in different parts of the field. On daylight breaking, the stillness of the graveyard pervaded the field; while the stooks were being enveloped in a thick mist, accompanied by a drizzling rain. The grouse having for several days been accustomed to visit the field without molestation, came showering in in large flocks without dread of danger. The keepers being alike up to their work, and knowing well the habits of the game, remained motionless in their concealment, having carefully selected and extemporised a number of the largest and tallest sheaves as temporary huts. During the entire day the sun never penetrated the dense fog which prevailed all around, and the drizzling rain continued till dusk. As the keepers levelled their deadly tubes, and fired through small port-holes between the sheaves, the birds, instead of taking flight, fluttered about amid the smoke and mist in utter bewilderment. While it is the habit of grouse and black game to feed in the mornings and afternoons, in such weather as we have described they are not unfrequently to be found on the stooks and stubble during the entire day. Such was the case in the present instance; and when the keepers rose from their concealment and gathered up their spoils, they carried off conjointly upwards of forty brace of splendid grouse. It must here be noted that everything was against the grouse. The very elements appeared to

have conspired against them; and the guns were in the hands of men who knew how to take advantage of their opportunity. Had the field been occupied by two novices, or impatient excitable youngsters, a bag of only two or three brace would probably have been the result. For it must be kept in mind that, while comparatively indifferent to the report of a gun, grouse, as we have already pointed out, are not slow to discover any movement even in such circumstances as those we have described—that is, not studiously concealed. A couple of inches of the top or peak of a dark shooting-cap, or the slightest movement of the muzzle of a gun, startles them as effectively as if a man was seen at full length in the middle of the field. This quickness to detect danger is the peculiar instinct of the grouse. Were it not for their quick-sightedness, more particularly at that season when driven by hunger to the corn-fields in immense packs, it is easy to see the risk they would run of being exterminated in those parts of the country where moorland is partially cultivated.

Before leaving this branch of our subject, there is one point too important to be overlooked. We refer to what constitutes an essential feature in the success of the sportsman in grouse-driving. Many remarkably good shots on the open moor and in general shooting, to their amazement signally and notoriously fail when placed in a shooting-"box." So generally is this the case, that there are few accustomed to

grouse-driving whose experience will not support the accuracy of our observation. We recollect of once being placed in a shooting-"box," the next to one occupied by a fair shot, but who was quite a stranger to this sort of work. The grouse passed him in literal showers, while numbers of fine old blackcocks also passed him in rapid succession. For a time the firing from his ambush was incessant, but it summarily ceased, notwithstanding that the drivers were a full quarter of a mile distant, and the birds still continuing to pass in fine style. No one being in the "box" with him, we naturally feared that some accident had occurred, and as soon as the drivers appeared, lost no time in hurrying to the "box" occupied by our friend. Here we found that he had not killed a single bird, and had thrown down his gun in positive disgust. On asking what was wrong, he replied nothing further than that he was disgusted with himself, as he had missed every bird that he had fired at. Here it is necessary to note the explanation. The birds were strong in the month of November, and swept past as with lightning speed, aided by a high north-east wind. He no doubt covered his birds accurately, but failed altogether to take into consideration either the angle or rapidity of their flight. We, on the contrary, along with the occupants of other "boxes," were successful in making a capital bag. Why this? Simply because, on the approach of the birds, we took care to calculate not

merely the direction, but also the rapidity of their flight. Unless this necessary precaution be attended to in grouse-driving, success can never possibly be attained. We again repeat, that in order to success, the first bird should always be taken before it reaches the "box," and the second as nearly as possible before it has got fairly past—always, of course, keeping in view the danger of firing while the bird is in line with the adjoining "box." It may not be amiss to recommend, that as the birds approach, if skimming the heather, the first shot should be aimed rather low, otherwise the chances are that the bird aimed at will escape by being shot over. As regards the second shot, it is equally important that aim be taken in advance of the bird, otherwise to a dead certainty it will escape or be only struck with some of the stray pellets. Here we have the explanation why so many go away wounded about the legs, while otherwise untouched.

It is impossible to state distinctly the distance to aim in advance of the bird, as this must to a considerable extent depend upon ever-varying circumstances. There is to be considered the rapidity of the flight, and the angle or altitude of the bird; and there is also the strength of the wind, which may occasionally prove very inconvenient, setting aside all ordinary calculations. There being no fixed rule which can be here dogmatically applied, very much must depend upon the judgment of the sportsman, and

his aptitude to appreciate and take advantage of ever-varying circumstances. This much, however, we may safely add, that for every bird that escapes in grouse-driving by being shot at in advance, there are a dozen which escape by the shot passing either over them or in their rear.

CHAPTER XI.

GROUSE DISEASE.

No one who has experienced real grouse-shooting, either with dogs or by driving, will care to differ with us when we say that, all things considered, it is excelled by no other kind of sport. It has, however, in these latter years, had its drawbacks, arising from periodical visitations of the "grouse disease." There is no other contingency can arise which the keepers in the mountainous regions of Scotland so much dread, and certainly there is nothing which more effectually damps the enthusiasm of the sportsman. The evils arising from moor-burning, the depredations of poachers or vermin, and malicious and ill-natured shepherds, a judicious and considerate keeper will be able to avert; but the ravages of this subtle disease he is helpless even to mitigate. It is not without somewhat of a feeling of reluctance that we class the shepherds in the category of enemies to the sportsman. In doing so, it is almost needless to say that we do not wish our remarks to apply generally to that most useful class in the community. On the contrary,

there is, as a rule, no class more generally intelligent and well-conducted, and who put themselves to greater inconvenience to preserve game during the breeding season, and to prove more obliging and accommodating to sportsmen. As in every other class, however, there are exceptions to be met with; and when a shepherd has a secret grudge either against the proprietor, the lessee, or the keeper, he is able, stealthily and without the possibility of detection, to do more damage than all the depredations of poachers and winged and ground vermin put together. It is therefore essential that keepers should live on the best of terms with the shepherds on the estate; and where this is found to be impossible, it is alike the interest of the proprietor and the tenant of the shootings to see that one or other is removed. There are, however, cases where no amount of consideration and kindness on the part of the keeper will be able to control ignorance and malicious mischief. On visiting a grouse-moor in Peeblesshire some years ago, we had an illustration in point. We there found a shepherd who felt terribly aggrieved at being called upon to pay the dog-tax. He had got it into his head that all sportsmen, many of them being members of Parliament, were necessarily responsible for the imposition of the tax on shepherds' dogs. A few days previous to our going to inspect the moor, he was accompanied in his round on the hill by a neighbour in the district. In crossing a mountain-side they flushed a moor-hen, which left open to view a beautiful nest of

nine eggs; and this ignorant churl, in the most heartless and malicious manner, stamped the eggs beneath the heel of his boot, and with a great oath declared that he was determined to have his revenge for their having imposed upon him that cursed dog-tax. We were glad to find that within a few weeks thereafter he received orders to quit. We hope that his next situation was one where neither grouse nor winged game of any kind were to be found.

Like most other malignant and fatal maladies which affect either the human race, the lower animals, or the finny tribe, the grouse disease has been the theme of endless discussion. Without assuming to speak on the subject with infallibility, we hope to be able to show that much of what has been written either explanatory of the origin or the remedy of this disease fails to solve the difficult problem, in which the sportsman and the naturalist are alike interested.

The first time grouse disease attracted special attention was in 1838. Prior to that date it was not unknown in Scotland, but it had not hitherto, in so far as we know, assumed all the alarming proportions of a malignant epidemic. Even at the period referred to, and for several years afterwards, it was much milder in its results than it has latterly become. In 1867 it seems to have developed itself in a most destructive form, thereby attracting very general attention. Prior to that time it was comparatively local, decimating the birds in certain districts, and leaving others untouched. Now, however, its appearance was all but

universal, and left few, if any, parts of the country unscathed by its destructive influence. The epidemic assumed two different forms. In some cases the birds were "draggled," wasted and emaciated, bare about the legs, and indicating that they had fallen a prey to a long-continued and fatal disease. At a more advanced period of the season they were found dead in beautiful plumage, with fine feathery legs, and the red above their eyes unsullied and as bright as vermilion. In many cases they were seen the one day seemingly in perfect health, and the next day found stiff and cold in excellent condition. This is an incident in the history of the grouse disease to which we direct very special attention. If this circumstance had been carefully noted, much that has been written purporting to explain its origin and nature would never have been put on record. Imagine for a moment a cock-grouse one afternoon full of health and spirit, and the next morning dead or dying of this mysterious malady, and you have a refutation of many of those speculations which have been put in circulation as accounting for the grouse disease. In a number of birds which we subjected to a *post-mortem* examination, in conjunction with scientific and professional authorities, we discovered intense inflammation of the bowels; while by the aid of the microscope, immense quantities of *strongle* were discernible in the inflamed parts. The suggestion that the disease which thus terminated in death could have its origin in "overstocking," in the "indiscriminate

killing of predatory animals," or in "lead-poisoning," is simply inadmissible. Such cases as those we have described were exceptional when contrasted with that other more loathsome form of the malady to which we have previously referred, and which seems to have been much more contagious. Indeed it swept across certain districts of country as a fiery pestilence, leaving nothing but death and destruction in its trail. Moors on which the year previous good sport had been obtained, were in many cases left entirely destitute of living grouse, but their bones and skeletons might be seen bleached and scattered about the hills in thousands, and their carcasses found in all stages of decomposition by the water-courses. It is a characteristic of this disease for the birds to be attracted towards the streamlets and water-courses, which, we presume, is attributable to excessive thirst, resulting from the inflammatory and disordered organism. The croaking of the ravens seemed to tell of their having found a banquet without trouble, as they daily gorged on the parts of the carcasses most congenial to their tastes.

The lessee of a very extensive and good grouse-shooting on the Lammermoors found, in the year prior to the disease breaking out, a superabundance of birds. Notwithstanding the wildness for which the grouse are proverbial in that district, he enjoyed excellent sport, and made daily heavy bags; and at the close of the season there was left an exceptionally large breeding-stock. On going out at Christmas for a

few days' duck-shooting, he found the disease had then set in among the grouse, which were sitting motionless and dead in many cases, while others were fluttering about among the snow unable to rise. Such was the dreadful mortality among the birds during the spring months, that in reply to certain inquiries an intelligent shepherd wrote—"There is scarcely a bird left alive. I couldn't have believed that there were so many grouse on the moors until I saw the immense numbers of dead birds that were lying about in the water-courses and mountain-streams. During the lambing season, if I had commenced opposite my dwelling and gathered all the dead birds down to the bridge—a distance of two or three miles—I verily believe they would have nearly filled the body of a peat-cart!" On the August following, the shooting had fallen into the hands of another tenant, who, after hunting with a couple of dogs for six hours, only succeeded in bagging three grouse. It is unnecessary to add that he never again set foot upon the ground. We give this well-authenticated narrative—with the details of which we are personally acquainted—as illustrative at once of the contagious character and fearful mortality of the grouse plague.

From the subtle and insidious nature of the malady, great fears were entertained that in certain parts of the country the grouse species were in imminent danger of being extirpated. Fortunately, however, the disease ran its course; and although the birds that survived were limited in number, they seemed extra prolific, and with a few consecutive good breeding-seasons

fair sport was again generally obtained. In 1871 and 1872 they became very plentiful; but alas! in 1873 disease again broke out—if possible, more serious and fatal than the attack which preceded it. On examining a moor in the north of Perthshire, where we had seen a hundred brace killed in a day by two guns the year previous, we had to report that sixteen birds were all we had seen after hunting four brace of dogs the most part of the day, and taking into consideration that we might have seen the same birds several times. Here, as on some other of the most valuable and extensive moors in the north, shooting for the season was strictly prohibited. This was no doubt the best course both for proprietors and lessees to pursue.

While the fearful prevalence and fatal consequences of the grouse disease admit of no dispute, the cause of it, as put forth in many cases, appears in a great measure to be only a matter of surmise. Few of the theories that have been submitted can stand to be closely criticised, while others are transparently absurd. Let us look at some of the most popular and probable explanations which are assigned as the cause of this vexatious calamity.

Parasites have in many cases been urged as a cause explanatory of the origin of this disease. This theory is certainly deserving of consideration, as in numerous birds which we personally dissected some of the largest intestines were literally packed with tape-worms, while immense quantities of *strongle* were found in

the cæcum. But the question here arises, Why these parasites which precipitate death? It has been suggested that the birds must take in the hydatides in the bodies of some creatures such as small beetles and other insect-life, and that the *strongle* are emitted in the excrements, which on wet ground, or at the sides of springs, keep alive for a long time, and are swallowed by other birds when drinking. We are not able to accept this theory as accurate and satisfactory. If tape-worms were confined to seasons and localities where disease was prevalent, it might be accepted as a probable solution of the difficulty. This, however, is not so. On the contrary, we find tape-worms prevailing among grouse as well as among other animals where there is no external evidence whatever inimical to healthy development. How often has the observant sportsman found, when a young grouse, or even an old bird, has been "mauled" by an inexperienced shot, or torn by a reckless dog, that its intestines have been the receptacle of tape-worms, when there was not the slightest indication that the bird had been in other than the most healthy condition! The fact here indicated is too well authenticated to admit of controversy, and goes far to refute the theory in question. The same remark applies to *strongle* in a healthy as well as in a diseased organism. We have referred to parasites in other animals as well as grouse when no trace of disease is apparent. Rabbits afford a familiar illustration. Indeed during the summer months, when young rabbits are being shot, they are

likely to be found less or more affected with parasites of the tape-worm species, when everything in their active and watchful habits indicates healthy action. Before we dismiss this theory it must be acknowledged that, as we have pointed out, there are circumstances in which the existence of parasites or tape-worm do precipitate death. When, by reason of extra severe winters or of birds being scratched with shot, they become weakened, and the tone of the digestive organs and intestines lowered, the bowels are necessarily unable freely to discharge their important functions. In such circumstances it is apparent that increased mortality must be the result. It is this which has largely contributed to the prevalent notion that parasites are the primary cause of the grouse malady, while their relation to increased mortality is merely secondary. With every desire to give full weight to the above consideration, we feel constrained, in view of the whole facts of the case, to dismiss the theory of parasites as affording no solution of the periodic malady in question.

An excessive consumption of corn by the grouse species, particularly in wet seasons when the harvests are late, has been assigned as a cause of the grouse disease. It has at the same time been remarked that grain is not a natural but an artificial diet for the grouse species. However reasonable this assumption may appear, and admitting that it is correct, it does not necessarily follow that the consumption of grain would generate a disease so malignant in its nature

and appalling in its results. While we believe that heather is almost exclusively the food upon which grouse feed—and undoubtedly the fine wild flavour of those birds is lost when they eat corn—it is a fact that they can live and thrive almost exclusively upon corn. Some years ago we hatched a nest of grouse eggs beneath a bantam hen. We at first took great pains in gathering daily some heather, which we considered necessary for their maintenance; but as this cost a deal of time and trouble, we tried them with corn as they grew up, and subsequently they got little or nothing else. During the several years we had them in our possession they seemed to thrive remarkably well, though it was only at rare intervals that they tasted heather. Then, again, we may take for example the Dalnaspidal or some of the Rannoch moors, which are shut out by such an amount of territory from cultivation, that we may safely say the birds there never tasted corn, and yet in 1873 the fatality of the disease there was most awful. Taking these facts into consideration, we cannot see how the theory submitted can be accepted as affording any explanation of the origin of this malignant distemper.

Frosted heather has also been assigned as a cause of the grouse disease. Any one who has witnessed heather killed by frost will at once think this a most plausible idea. When we take into consideration, however, that heather which has been killed by frost and entirely divested of its nutritive qualities, is about the most unlikely thing for grouse to feed

upon, and when it is kept in view that disease has frequently broken out among the birds during the autumn months, before any frost had been experienced, this fact presents an obstacle to the frost theory which, to our mind, seems insurmountable. It has further to be noted, that after a severe attack of grouse disease, the survivors are to be found mostly on the high and exposed ground, where the heather must have suffered most severely by the frost, while disease and death most fatally prevail in low-lying and sheltered localities. Another consideration fatal to the acceptance of this theory is the fact that grouse disease has not been peculiar to those seasons when the heather was most generally frost-bitten, or when it had not been covered and protected by heavy falls of snow. A little reflection will satisfy those who have given attention to this subject, that some of the most fatal visitations of the malady have been preceded by winters more remarkable for mildness than for severity. If these facts are to be regarded as evidence, there is no escape from the conclusion that this theory must be dismissed as unsatisfactory.

Overstocking is submitted as another solution of the vexed question as to the origin of the disease. This theory, which seems natural and reasonable enough at first sight, is entitled to calm consideration. However reasonable, it is nevertheless liable to objections which divest it of much of its importance. It is easy to understand why the disease should so prominently obtrude itself and prove most fatal in

its ravages on a well-stocked moor. The very fact that it is well stocked, and that the birds are plentiful—apart from any other consideration—necessitates this. If the theory in question is to be accepted, how are we to explain the circumstance that in those tracts of country and on those moors where heather-food is abundant, but where the stock has been kept at a minimum, the disease is as virulent and fatal as where the birds have been by natural and artificial facilities fostered and encouraged to the most extreme limit? In 1868, when the best stocked moors in Perthshire, and indeed the whole Grampian range, were swept by the pestilence to an extent formerly unprecedented, we found, on returning from the north, evidence which thoroughly exploded the prevalent notion, which we, in common with many others, had entertained in regard to overstocking, as being the cause of the insidious malady. During that season, two gentlemen with whom we were well acquainted had shootings in the south of Scotland. They were not merely keen sportsmen, but observant naturalists, and deeply interested in the study of the habits and diseases of game. Few districts in Scotland were better supplied with fresh young heather, interspersed with clean healthy bent and green patches, and at the same time abundantly supplied with mountain-springs. Notwithstanding all these advantages, the grouse, although moderately shot, had never been regarded as plentiful. If the grouse disease had been traceable to overstocking, it is not too much to say

that there was here a moorland district lying in the counties of Selkirk and Dumfries which possessed all the conceivable conditions necessary to secure immunity from disease among the birds. But what are the facts? Simply these, that there was no district in Scotland which had suffered more dreadfully than that to which we have referred. On one day at the commencement of the season, these gentlemen, with a brace of first-class dogs, traversed the wilds of that mountainous district for six miles at a stretch, and did not see more than eight or nine birds during the entire day. They returned early in the evening with only some two and a half brace, while in ordinary years they might have been expected to have bagged from eighteen to twenty-five brace. This incident has no special or local application, but may fairly be accepted as representing the prevailing state of things.

It has been urged by one whose opinion is entitled to respect, in support of this theory of overstocking, that as it is impossible to draw a cordon round a thinly stocked moor, those birds flying from the overcrowded territory carry the epidemic into the hitherto healthy districts. This argument in support of the overstocking theory might hold good, providing that the conditions assumed always existed; but, in the absence of those conditions, of what value is the argument in question? Take, for example, that tract of moorland stretching from the arable lands north of the Moorfoot Hills right southward to the pasture-

lands reaching towards the English border, and no part of which could be said to be overstocked in any sense of the term. What, then, are the facts? Simply that the whole of that tract of country has more than once been swept by the desolating scourge. It is no use suggesting that the infection was carried into these moors by birds from overstocked regions No one who knows anything of the district will believe anything of the kind, because, unfortunately for the sportsman, the birds are never found so numerous as to constitute overstocking. It is well known that overstocking is chiefly confined to the Highland moors. There may be moors overstocked south of the Forth, but certainly it is not in the district to which we refer.

With the incontrovertible fact staring us in the face, that the grouse perished as certainly where the stock was most limited as where it was most numerous, we submit that wherever the cause of the grouse disease is to be found, it must be sought elsewhere than in overstocking.

The only other theory worthy of attention is one which has been invested with special importance, in consequence of its having been supported by many eminent authorities. We refer to the alleged disturbance of those laws in the animal kingdom whereby the balance of nature is subverted by the wholesale destruction of winged and ground vermin by gamekeepers and others. Some of the ablest students in natural history have designated foxes, weasels, eagles,

and hawks as the scavengers of nature, for killing off weak and diseased birds, and thereby cutting short the sources of contagion by which disease is communicated to the more healthy of the same species. This is not only extremely probable, but we believe it represents the operation of a law in nature which cannot be gainsaid. At the same time, we believe this theory to be exaggerated and pressed beyond due limits, when it is made to explain and account for the disease among grouse. That weak and diseased birds are most likely—yea, certain—to become an easy and ready prey to weasels, cats, and foxes, must appear manifest to all; but in the case of the eagle, the falcon, or even the sparrow-hawk, we do not believe that the theory holds good.

No one who knows the active, dashing, and daring habits of the hawk tribe, or who has seen one of the species — as with lightning speed — arrest its affrighted victim, will care to support this theory. Even the fox has not that difficulty in catching his prey which many people believe. His keen scent, piercing eyes, and indescribable cunning, make him more than a match for the most watchful of the feathered race. Those whose vocation it is to discover and excavate from their den in the spring months the young cubs of the fox, must have been struck on finding, amid the heterogeneous remains, all manner of winged and four-footed animals which had been carried thither by the old foxes. Recently, on a grouse moor in Peeblesshire, we dug out a litter

of fox cubs. In the den we found not merely the remains of lambs, hares, and rabbits, but the wings and legs of pheasants, grouse, and partridges, and, what was more remarkable, the wings and limbs of golden plover, birds which, with the exception of the curlew, may be regarded as the most watchful of the feathered tribe. Even the curlew—ever on the watch—is not able to protect itself from the stealthy approaches of Reynard. A striking illustration of this fact lately fell under our notice. Having occasion to visit a grouse moor in Lanarkshire in the spring of 1880, we found a litter of six beautiful fox cubs, with the dam, confined in a box outside a solitary shepherd's bothy. After being a few days in confinement the old lady contrived to make her escape, carrying with her the chain and collar with which she had been secured. Two days thereafter, the shepherd on an adjoining moor accidentally came upon her with the chain attached, and greedily devouring an old curlew which she had evidently caught only a very short time previously. With the aid of his dogs, and being encumbered with the chain, she was speedily recaptured, and returned to the box and her deserted progeny. From these well-attested facts, it will be seen that the fox cannot be regarded as to any great extent dependent upon weak or diseased birds to obtain his daily supplies.

That this so-called disturbance of the balance of nature affords no satisfactory explanation of the origin and extent of the grouse disease is attested by other

considerations. For example, we know extensive tracts of moorland districts where grouse abound, and where their protection is intrusted entirely to shepherds. In such cases the trapping and killing of vermin cannot be said to be practised to any appreciable extent. If the theory we are now combating was the correct one, we should expect in such districts to find the disease either absent, or prevailing only in a modified degree. This, however, does not comport with our experience. On the contrary, we find that on certain of those moors entirely intrusted to shepherds, the pestilence has proved most fierce and fatal, notwithstanding that foxes, weasels, and birds of prey have been allowed to harbour and breed without restraint.

Deer-forests afford another corroborative illustration in point. As the stalker well knows, many a laborious and protracted stalk, involving hours of manœuvring and excitement, has terminated in mortification and disappointment, by the whirr and affrighted cackle of an old cock-grouse which has been startled from his heathy roosting-place. With the view of minimising the mortification arising from such untoward incidents, it is well known that instead of the balance of nature being there disturbed by the destruction of vermin, both birds of prey and four-footed vermin are fostered and encouraged. What, then, is the effect of this? It may be, and doubtless is, to reduce the number of grouse; but in no case, so far as we know, has it been to protect them from disease.

The statement that grouse disease does not prevail in deer-forests is notoriously at fault. Indeed we have known it to prevail in deer-forests where winged vermin were strictly preserved, to a more fatal extent than it did on adjoining moors where the vermin were judiciously kept in check. So recently as 1880, this was strikingly illustrated in the Duke of Athole's extensive forests. It is a singular fact that while we were able to pick up immense numbers of dead and dying diseased birds in the forests referred to, there were few or none to be found north of the county march between Perthshire and Inverness-shire. Strangely enough, the same remark applies to a large extent to the other boundaries of the estate. We do not profess to explain this circumstance, but certain we are it was not because there were no birds crossing the line from the forests into the more highly favoured and healthy districts. Of what avail is the exercise of mere theorising in support of a position when contradicted by such stern and indisputable facts? Unless these can be overturned or refuted by substantial and well-authenticated testimony, it is idle either to speculate or dogmatise against the disturbance of the balance of nature. How much more reasonable and wiser that policy which would industriously turn to account the lessons of experience and patiently wait the unfolding of scientific discovery, than to indulge in self-assertion and dogmatism in an atmosphere of uncertainty!

It seems scarcely necessary to pursue the subject

further, enough having been said to show that this theory, however generally it may have been accepted, cannot stand the test of searching criticism.

We do not presume to be able to point to the specific source of the grouse disease, but we do not hesitate to express our belief that its causes are largely atmospheric, and that it pertains to a class of diseases in the animal and vegetable world, which, up to the present hour, have baffled alike the researches of the metaphysician and the naturalist. There are periodical visitations in the form of epidemics, which make sad inroads upon the vegetable as well as the animal kingdom—as in the case of the potato disease, and the rinderpest and the cholera. Like the two last-named diseases, the grouse disease makes sad havoc among its victims. While its wasting and malignant influence can be traced through the various organs of the system, the creative forces by which it is originated remain shrouded in mystery. Whether science shall ever be able to discover the subtle cause of this malignant distemper we know not, but certainly it is not to be arrived at either by idle speculation or dogmatical assertion.

In support of this disease finding its prolific source in atmospheric influences, we are glad to be able to cite such authorities as Dr Farquharson, Mr M'Haffie, and Mr Andrew Wilson, Lecturer on Zoology and Comparative Anatomy, who tells us that "he does not believe in the *parasitic* theory, but in some lesion analogous to the epidemic theory."

In taking leave of this subject, we would recommend that grouse eggs should be occasionally transferred from one district of the country to another. By this means one of those forces in nature—viz., close breeding, which invariably tends to the deterioration of the species, would be counteracted, and an impulse given to the healthy and vigorous development of the stock. This suggestion might with advantage be carried out in relation to every other species of winged game.

Black-game.

CHAPTER XII.

BLACK-GAME SHOOTING.

This is a species of sport which is often destroyed for the season by the birds being prematurely slaughtered. In the event of the game-laws being amended, provision should be made for extending the time for the commencement of shooting black-game from the 20th of August till at least the 1st of September. In many parts of Scotland, such as Dumfriesshire and

Selkirkshire, where black-game abound, they might at the beginning of the season often be picked up with a steady dog, without almost a shot being fired except at the old birds. There are few things more disagreeable to a sportsman than, after having shot at young black-game when rising "cornerake-like," to see them picked up soft and comparatively useless. Although legal to shoot grey-fowl in such circumstances, the interests of proprietors and lessees alike suggest that, altogether regardless of the statutory period, no black-game should be shot until the young cocks have become black on the back, and the hens well fledged and strong on the wing. Even then, from their habitat being among rough "sprets," rushes, or thick ferns, they lie so close, that unless allowed to get a reasonable distance before being fired at, the chances are that they will be mangled, and unfit to be bagged. The accuracy of these observations must be too well known to sportsmen to be insisted upon, but to young impulsive amateurs they are highly important; and, however disagreeable to keepers, they ought, in the interests of honourable and dignified sport, to see that the above rule is rigidly enforced. We know no better cure for the unsportsmanlike habit referred to, than to compel those young gentlemen who indulge in it, to stand and see the soft, damp, and bleeding mixture of flesh and feathers turned out of their bag after reaching the lodge. We have seen this experiment tried, with the invariable result that the parties responsible for such

folly were heartily ashamed of it. It is not merely the loss of the game, but there is the sacrifice of that which ten or twelve days later would have afforded really good sport, and constituted a truly splendid bag.

There are few sportsmen who, while shooting grouse at the commencement of the season, have not occasionally come across a brood of black-game. In consequence of the reluctance of those birds to rise—more especially if it should chance to be wet—the temptation to dogs even thoroughly trained, to "snap" at them, is very great. One of the otherwise best behaved pointer bitches we ever shot over frequently erred here. She seemed to have only one idea—viz., that of filling the bag; and so long as the birds rose freely she was faultless. When, however, she found black-game, and the young birds scattered, she took a special delight in catching them, notwithstanding that she was frequently whipped for it. We have seen her jump at a bird when it rose, and when she missed it, her jaws would clank together like those of a fox-trap, although, strange to say, she manifested no such mischievous tendency among grouse.

Black-game will not stand the same amount of shooting as grouse. They are, as a rule, put up one by one at the very nose of the pointer, and are so easily hit that even an indifferent shot with a steady dog may, by following those he has missed, bag an entire brood, with the exception of the old hen, which, if not killed the first rise, will generally contrive to

keep out of the way for the time being. There is thus a danger of their being extirpated. This constitutes an additional reason for an extension of the close time, and why keepers should endeavour to persuade sportsmen to exercise self-denial to an extent unnecessary in grouse-shooting. Even old cocks in the month of August, being the time they are moulting, are lazy and reluctant to rise, and are frequently bagged over dogs. At this season they betake themselves to clumps of very thick ferns or rushes, where they will sit till compelled to make off. They frequently, however, make good use of their legs, and often baffle those unacquainted with their habits.

Unless game is really wanted, we would discourage the marking and following of young birds that may have escaped from the covey; otherwise, as we have shown, the ground will soon be cleared.

Some years ago on the Dalnacardoch moors, while hunting with a pair of dogs for grouse, they both found game at the same time, and on going up to the nearest one, a fine covey of seven black-game rose singly or in pairs, and every one fell. On going to the second dog, another covey of six rose somewhat similarly; but this time two got off unscathed, flew a few hundred yards, and settled together. One of the dogs, which had seen much service, marked them down, and on the dead birds being picked up, it ran straight up to the two which had just settled, and again pointed, when the sportsman followed and bagged them both. Not only do black-game lie close at first, but

while they take longer flights after they are full-grown, they are equally reluctant to rise a second time. We plead for indulgence and consideration for this class of game, as it is the only means by which the stock can be maintained.

When blackcocks get their winter plumage, and especially on high ground, we would withdraw our plea for protection, as there are few birds more "wide awake." Grey hens, on the contrary, may be said never to become really wild; and seeing that, unlike grouse, they do not pair, only a limited number should be shot. Indeed they ought to be treated in the same manner as the true sportsman does hen-pheasants.

When black-game begin to feed on corn, they will, if near corn-stooks or stubble, frequently be found in places where one would not expect to find them. Occasionally they will be found at the roots of hedges, among small clumps of trees or brushwood, and very often in rank turnip-fields. In this latter situation we have seen splendid shooting got, the young birds being strong and full-fledged, and when a couple of brace were worth three times that number in the early season.

In sunny forenoons, when the mornings are frosty, in the latter part of the season, splendid sport may be got by stalking blackcocks—a fine preliminary exercise for deer-stalking. At this time of the year cocks separate from the hens, and generally make for the high ground. One autumn afternoon, while hunting on the hilly slopes which overhang St Mary's Loch,

we discovered a pack of fine old blackcock, well up towards the summit. Having coupled up our dogs, and left them in charge of the keeper, we proceeded to stalk towards the inviting pack. When within about a hundred yards, several of the birds, observing our approach, rose and flew right ahead in the face of a strong south wind. One of them, which had failed to notice us, swept round within reach, and fell to our first shot. Following the course taken by the rest of the pack, we were not long in descrying them half a mile ahead, settled on a patch of burnt heather at the top of a deep gully or water-course. By going round, we got down into the gully unperceived, and were thus able to get within twenty-five yards of the birds. On our looking up, they all rose simultaneously; and taking advantage of our position, we instantly fired. Three fell to the first shot, and the last remaining bird dropped to the second. We were thus fortunate enough, by stalking for little more than half an hour, with three shots, to bag five fine old blackcock, which would have proved a sufficient reward for a day's hard work among the hills at that season of the year. We have seen first-class blackcock-shooting got on the summits of some of the highest mountain-ranges in the south of Scotland, where there are table-lands of many acres of moor and peat-hags; and when once reached, stalking can be accomplished with a minimum of toil and inconvenience. Towards the end of the season these table-lands of broken ground are frequently enveloped in mist. This is found to be a

great advantage to the stalker, as the birds are apt to get confused, and may be killed in large numbers if he exercise the precaution to keep himself and his retriever out of sight.

In driving black-game, they, unlike grouse, when once fairly on the wing, will not deviate from their course, even should they see the sportsman standing with fowling-piece ready to receive them. Although heavy and awkward in their flight when young, there are few birds which go at such a tremendous speed and with such an impetus as an old blackcock which has stood the storms of several seasons in the barren waste-lands of our Scottish mountains. We have frequently seen them shot while being driven at the beginning of December; and although shot right through the head or heart, and death instantaneous, such was the velocity of their flight that they did not fall until about sixty or eighty yards beyond where they received the shot. At this time of the year there is no finer specimen of a bird than an old blackcock. There is a something in his beautiful crimson-coloured eyelids, in the glossy blue plumage which marks his neck and breast, and in the sweeping curve of his tail, which constitutes him one of the finest ornithological pictures which this or any country can produce.

Ptarmigan.

CHAPTER XIII.

MOUNTAIN-HARE AND PTARMIGAN SHOOTING.

We have here brought under our notice a species of sport which every one is not capable of appreciating. At the same time, there is none more exhilarating and truly enjoyable to those of robust constitution, and who prefer active manly exercise along the summits of a mountain-ridge to hunting wild grouse on the

lower moorlands. It is scarcely necessary to remark that our observations here, so far as they concern ground game, apply exclusively to mountain-hares, designated blue or white hares, in consequence of their changing from the blue or slaty colour in summer to the pure and spotless white in winter.

While the high and rocky beats which constitute the habitat of the ptarmigan and mountain-hare afford good sport for the single sportsman or a select few, they are more generally approached by a large party, consisting of sportsmen, gillies, and shepherds. In such circumstances a carefully planned programme is drawn up, and when scrupulously carried out, as a general rule, results in slaughter on an extensive scale, without that enjoyable excitement which arises from the continuous exercise of both the mental and physical faculties. Without attending to certain precautionary measures, a source of danger to health may be encountered by the sportsman not having sufficient time to reach the "pass" to which he has been directed. The consequence is, that ere he has reached the "pass" and had time to conceal himself, the hares are seen running up in advance. This causes him to hurry on to the appointed spot, where, drenched with sweat, and it may be in the face of a cold wind, he sits down among rocky boulders, and in the excitement of watching the hares forgets the chilling atmosphere generally prevalent on the mountain-tops, even when nothing of the kind is experienced on the low ground. It ought therefore to be emphatically insisted upon that the

drivers are not allowed to start till the sportsmen are stationed along the ridge, some of them far ahead in the principal "passes" of the hares. In consequence of this precaution being neglected, many splendid drives have been bungled, and instead of proving a source of enjoyment, have led to nothing but irritation and disappointment. The best way to avoid this is for the keeper in charge to regulate the movements of both sportsmen and drivers by fixed time. Being familiar with the ground, he should know somewhat accurately how long each sportsman should take to reach the "pass" or summit assigned to him. The surest way to avoid all blundering by prematurely startling the game, is for the keeper to fix the time when every man must be in his place and when the drivers shall start. This simple rule being observed, cannot fail to give satisfaction to every one and ensure a successful result. If the keeper thoroughly understands his business, he will take care to select a calm day, and when the breeze—always prevalent on the mountain-tops—is in a favourable direction. Without this the drive might prove a comparative blank, notwithstanding the abundance of game—hares and ptarmigan being almost always on the lee side of the hill.

When there are sufficient sportsmen, it is well that one or two guns should keep moving forward above and a very short distance in advance of the drivers; not so far in advance as to disturb the flight of the ptarmigan or the advance of the hares, nor so far in

the rear as to allow the birds to cross out of range. Those sportsmen who occupy this position will frequently have better sport than those who are in ambush, more especially as they approach the end of the beat, where many of the hares and even birds will prefer to turn back or aside rather than face the fire and smoke in advance. As the drive proceeds, considerable intelligence is necessary. Those who stretch towards the bottom of the hill ought to be always considerably in advance; in short, the beaters should approach somewhat in crescent form, so that every inducement should be presented for the game to take to the rising ground. Those lowest down should by shouting and whistling make the most noise, taking care not to go so far in advance as to run the risk of the game running or flying backward.

The nature of the mountain-hare being instinctively to make for the tops of the hills, and such being also, although to a lesser extent, the habit of the ptarmigan, the exercise of ordinary intelligence will rarely fail to accomplish satisfactorily the desired result. While collies and dogs of any description are useful in such expeditions, it is imperative that they be kept always under command, otherwise they may prove a mischievous and intolerable nuisance. It being a habit of the mountain-hare, after being started, to run one or two hundred yards, and then, kangaroo-like, sit on end and look back upon the drivers, the temptation for dogs to break off in pursuit is great; and if one dog is allowed to break off, the likelihood is that

others will follow, when, it is needless to say, the carrying out of the programme will be seriously interfered with.

The number of hares which have been killed under such circumstances as we have described on some of the mountain-ranges of the Grampians is incredible. We have occasionally found ourselves placed in the front of a cairn of stones or ensconced among some huge grey boulders in connection with such expeditions, while a number of guns were placed on each side of us. As the hares came cantering up, occasionally sitting on end with pricked ears listening to the discordant sounds which proceeded from beneath, we have not been able to charge our breech-loader with sufficient rapidity to prevent large numbers from making their escape. We have seen as many as six and eight approaching all within shot at the same moment, while others followed in rapid succession. The rattle of the fowling-pieces along the ridge, the tumult and yelling of the beaters as they approach, and the clouds of smoke along the summit, all contribute to a scene which will not readily be forgotten by those who have witnessed it. More than once before the drive was completed, we have felt the barrels of our gun so hot by incessant firing as to render its continued use somewhat inconvenient. Much of the individual success in such expeditions depends upon the sportsman securing a right position, and maintaining it till the drivers are within gunshot. Many commit the mistake of getting behind the cairn and

firing past the sides, thinking they are thereby not so easily discovered. When the dress is of grey tweed, and closely resembling the granite cairn or boulders, we would recommend that the sportsman place himself in front of the cairn; and if he is able to sit still, making as few movements as possible, he will be far less likely to be discovered. That his movements may be as few as possible, he should have his cartridge-bag lying open close to his right hand; or if weather permit, he might have the cartridges lying open on the ground. None but those who have adopted this expedient can imagine the advantage to be gained from an arrangement so simple. It must, however, be confessed, that like a *battue* in an overstocked pheasantry, this species of sport is not without its drawbacks. To pick up thirty or forty hares for each gun—which is no unusual circumstance—the greater portion of them having been shot pretty much as in the position of targets, does not comport in every particular with our notions of first-class sport. This feeling is, however, largely compensated for when we are reminded that from the serious injury done to sheep pasturage by mountain-hares, necessity calls for their being shot down, as, notwithstanding those who fall a prey to the eagle and the fox, they have a tendency to multiply in immense numbers.

When the drive is finished, the hares are gathered together, and the ponies, which follow round on the ridge—in order to avoid the bogs—come forward. The gillies in charge of them tie the hares together

in dozens and hang them over the saddle, each pony carrying four or five dozen. The number, however, must depend somewhat upon the character of the ground to be gone over. As a general rule, after the first drive, which in most cases occupies several hours, the party meet at an appointed place and partake of lunch. On such occasions the keeper, if he understands his business, will see that the ponies are disburdened, and the hares stretched out upon the ground in order that they may become somewhat stiffened. If the season is not too far advanced, and the biting winds of winter be not making themselves felt, lunch under such circumstances contributes in no small degree to the day's enjoyment. No sportsman requires to be told with what relish lunch is enjoyed upon the moors after a forenoon spent in active exercise. With an appetite sharpened by the pure and healthful air which can alone be found on the mountain-tops, far away from the smoke and haunts of men, this is a treat reserved for the few.

Before again starting, the gillies fill the cartridge-bags from the reserve supply carried by the ponies, some of which are sent home by direct route heavily laden with the spoils, while others accompany the party, who proceed to carry out the arrangements for another drive. From the time which must necessarily elapse before the guns are again placed in position, frequently a mile or two ahead, ere the second drive is completed the setting sun will in all likelihood be found indicating that it is time all were mak-

ing tracks for home. On such occasions as we have described, the lodge is rarely reached before darkness has set in. After a good plunge and a thorough change of clothing, dinner is enjoyed with a relish, and followed by a sound and refreshing night's sleep, which contribute immensely to the enjoyment of life. This sentiment will be endorsed by all who have spent a livelong autumn day in the pursuit of hares amid the rocky and mountain ranges which constitute the background of some of the most wild and romantic portions of Scottish scenery.

In ptarmigan-shooting the sportsman often finds the ground he is called upon to traverse very much the same in its physical conditions and other circumstances as that travelled over in hare-driving. If he should desire to have a few shots at hares while in pursuit of birds, this is easily attained by the observance of one very simple rule. By keeping well up towards the summit, he will manage to get within easy range of the hares without difficulty. As already indicated, they by instinct run to the heights for safety, and are most unwilling to start when denied the opportunity of doing so by either men or dogs approaching them from above.

As a large bag of ptarmigan is not usually obtained in connection with a hare-drive, it will be found advisable to devote a day more exclusively to that purpose. The reason for this is obvious. In a hare-drive every one is obliged to keep the ranks, and though a covey were seen to alight a short way off,

a sportsman would not be justified in going aside to have a shot at them, as this would be to keep others of the party waiting, and interfere with the carrying out of the programme. When one or two go out with a couple of gillies specially for ptarmigan, they, as a rule, make a much heavier bag. To sportsmen who know the habits of those interesting birds, there is little difficulty in killing them, providing the day is fine. To know their haunts and search for them on the lee side of the hill, to single out the old birds at the first rise, to mark the covey and follow it, is about the whole secret in ptarmigan-shooting. As they—especially in hot weather—sometimes sit very close, an old dog, if he is free from hare, is a valuable attendant. Even when shot, if falling among grey and white stones, usually in abundance in ptarmigan haunts, there is a difficulty in picking them up without a dog, so closely do they resemble the stones in colour. As the hills become white with snow, the ptarmigan also change their plumage, which vies with the snow in whiteness. Here we discover how wisely nature makes provision for those birds by enabling them in a great measure to escape the notice of the peregrine falcon and other large birds of the hawk tribe whose

"Eagle eye
The ptarmigan in snow can spy."

Ptarmigan are believed by many to have a natural affinity to the grouse. In all our experience we have never seen an instance of them breeding together,

though we have frequently known a ptarmigan drop an egg into a grouse nest, so that the chick was hatched and reared among the young grouse. A few years ago, by the side of Loch Garry, we discovered, early in July, a young ptarmigan among a covey of grouse on the footpath along the side of the loch, where it was almost daily seen until it was full grown. Soon after the 12th of August, however, it fell a victim to the sportsman.

Their cry is very different from the cackle of the grouse, which falls pleasantly on the ear compared with the discordant rusty croak of the ptarmigan. Their nesting-places also differ from those of the grouse, which, as already observed, are, as a general rule, to be found in proximity to water, while those of the ptarmigan are to be found at a great distance from springs or water-supply of any kind whatever. That young grouse would perish for lack of water where ptarmigan thrive is indisputable.

Reverting again to sportsmen in pursuit of ptarmigan, it is proper to observe that, however fine the day may appear in the morning, it not unfrequently happens that the hills suddenly become enveloped in mist, while it may be clear, and even sunshiny, in the plains beneath. When this is the case, firing should at once cease, as the risk of shooting your companions is very great, for there is nothing more misleading than mist. It will sometimes happen that if your companion chance to be out of sight for a little, you may think him on the right or the left, as it may be, but to your surprise you may discover the flash of

his fowling-piece right in front of you, or hear him calling at a considerable distance in the rear. Shooting under such circumstances is as injudicious as it is perilous.

The danger of missing one's way in mist is also great. When fairly lost, the best plan to adopt is to follow the first water found running, which to a certainty will lead to the low country, though it may be far from your destination. Some years ago this misfortune happened to us when out ptarmigan-shooting; and though only a couple of miles from home, so dense and confusing had the mist become, that it baffled all the keepers and gillies to state with confidence their exact whereabouts. There were two water-courses, running somewhat in different directions; but as to the proper one to follow leading homeward, two keepers, both long resident in the district, disagreed. We were unfortunate enough to confide in the one who was wrong, and about a couple of hours afterwards found ourselves by a river-side into which the mountain streamlet emptied itself, eleven miles from home by a safe road.

There is something in being lost among mist or snow which it is difficult to explain. We have known shepherds and keepers who have been familiar with the district for years, get as thoroughly confused and unconscious of their real position as if they had been utter strangers. We would recommend that sportsmen, more especially in the Highlands of Scotland, should have a small pocket-compass. This would be found invaluable when overtaken with snow or mist,

if they had previously taken care to satisfy themselves as to the accurate position of the lodge.

The sportsman in pursuit of ptarmigan will in fine weather, when the ground is dry, find the birds sit very close, and owing to their reluctance to rise, they will often be seen running among the grey stones or "selithers," where they generally allow the guns to approach within a few yards before they take wing. The temptation for young sportsmen to shoot before allowing them to rise is here very great. Perhaps there are more ptarmigan shot while running or cowering among the stones than other winged game. This arises from the anxiety of most sportsmen to get possession of these birds, they being more rare than other kinds of game. It is a notable circumstance, however, that they are frequently missed even by good shots when on the ground, in consequence, we believe, of the over-anxiety of the sportsman. After long experience and observation, we would recommend those hunting ptarmigan not to shoot until the birds are on the wing, as we have never seen the practice of firing at them sitting or running among the stones contribute to the size of the bag obtained.

Success in ptarmigan-shooting depends very much on ever-varying circumstances. We have gone out one day, and been baffled in getting a single bird, while on other days we have had no difficulty in bagging ten or twelve brace.

In September 1880, on the Dalnaspidal Moor, when preparing to start for the South, we found our-

selves packed up and ready a couple of hours before the time for the departure of the train. Anxious to take a brace of ptarmigan home, we looked at the mountain-tops, took out our watch, and at once resolved to try and accomplish our purpose. Having taken the gun out of the case, we were in a few minutes hurrying up Corrie M'Shee. What is reckoned an hour's climbing was got over in little more than half that time, and on reaching the haunts of the birds in question, we took the lee side of the hill, there being a good breeze, and looked about among the grey stones for the object of our visit. Immediately a bird rose, and fell to our first shot. While in the act of reloading, other two rose, though at a somewhat distant range. We hurriedly "snapped" the gun and fired, but without success. Having marked them down, we, on putting them up again, killed them right and left. On consulting our watch, we found there was still a little time to spare, and taking a turn lower down, came upon other four, which rose wild. As they turned the corner of a hill we lost sight of them, but thinking they would not go far, made up our mind to follow. On searching about they rose, and notwithstanding that they hung in the wind almost stationary, we managed to miss with the first barrel, but killed one with the second. The three took a long flight, but as it was in the direction of home, we followed them. They settled beside a white stone; so keeping this in view, we hurried on. On the way a single bird rose, which was also added to

the bag. Reaching the spot, we looked round and saw the three remaining birds running up the hill about thirty yards off. On perceiving that they were discovered, they instantly rose so close together that the first shot felled all the three. Picking them up and hurrying home, we found that we had still twenty minutes to spare, after seeing eight ptarmigan, firing eight shots, and bagging the lot.

It is but proper to add, that we might have tried the same experiment a score of times without meeting with the same success; and the probability is, that notwithstanding our best endeavours, we may never again meet with such unprecedented good-luck.

Ptarmigan in summer plumage.

Deer.

CHAPTER XIV.

DEER-STALKING.

DEER-STALKING has very appropriately been designated "sport for princes." In order to its full enjoyment, grouse-shooting must have been prosecuted and enjoyed in mountainous regions where difficulties, and even hardships, could only be overcome by the perseverance of an enthusiastic sports-

man. The training thus acquired, by the scaling of precipitous rocks and the traversing over miles of moorland, whereby the limbs and lungs are alike tested, is indispensable as a preliminary to make deer-stalking either enjoyable or successful. We should as soon expect to find a good English scholar who had not passed through the elementary standards, as to find a gentleman a successful deer-stalker who had not previously been an ardent and somewhat successful general sportsman, and more especially, as we have indicated, among grouse, and, we may add, mountain-hares and ptarmigan.

Those who have witnessed the awkward appearance of the amateur sportsman who for the first time tries his hand among the steeps and mountain fastnesses of a Highland grouse shooting—invariably associated with a light or empty bag—do not require to be told how ridiculous would be the attempt of such a one at deer-stalking, where skill, experience, and general tact are so necessary, with not a little knowledge of the habits of the noblest, and at the same time the most shy and wide awake, of living animals. Indeed it is the skill and perseverance required, coupled with those numerous collateral difficulties contingent upon wind, sunlight, and position, which give zest to this the most magnificent of all sport. It is difficult to explain, and certainly impossible for us to describe, the mingled feelings of excitement and interest of the enthusiastic sportsman who, after perhaps a couple of hours' toil

and stratagem, finds himself for the first time within eighty or a hundred yards of a noble stag as it raises its head majestically to the heavens the moment when it first realises the possibility of danger. It is at this juncture that the accuracy of our preceding observations will be apprehended, and when the nerve of the sportsman will be thoroughly put to the test. He may have one of the best and truest express-rifles ever manufactured, and he may have practised with unerring aim at the target on the rifle-range with the most remarkable results; but unless he has been thoroughly educated to exercise calmness and deliberation in such circumstances, the chances are, that before he is well aware, both barrels will be discharged, while the noble monarch of the forest may be seen bounding across the mountain-side, and the sportsman standing bewildered and confounded, with the stalker by his side the personification of blank despair.

As wind is the greatest difficulty the stalker has to contend with, we are not surprised that "How is the wind this morning?" should be the first question put to the stalker when he makes his appearance before his master to make arrangements for the sport of the day. Should the forest not be an extensive one, and the wind in an unsuitable direction, it is advisable not to disturb the ground at all, otherwise there is the risk of the deer being put off the ground, to afford sport for the tenant of the adjoining shooting. If the day can be spent in grouse-shooting or

angling, so much the better; but if neither of these is available, it is much better to remain in the lodge and wait for a change of wind, than to have the deer driven out of the forest, as they may not return for days. It is remarkable how deer, guided by natural instinct, generally travel with their nose to the wind; and when it is kept in view that their smelling powers are such that they can detect the presence of man at the distance of a thousand yards, it is easy to see the folly of attempting to stalk down wind. So strongly are they endowed with the instinct of travelling up wind, that a calf a month old, if separated so as to have lost sight of its dam, will run only as described. As is generally known, the stalk is far oftener destroyed by the deer getting wind of the stalker than by seeing him; hence the necessity of always studying to keep leeward. Should the nature of the ground be suitable, this is easily accomplished; but in some of the deep round-shaped corries, the wind not unfrequently whirls round like water in an eddy. This fact is well understood and taken advantage of by the deer. Hence the explanation why they are so often found in these corries, where the wind operates in the manner we have described. It is an interesting study, to those of a contemplative mind, to trace the singular provision which nature has made for the protection of wild animals, and to note, as in the present case, how quick they are to take advantage of it.

If it is found in the early morning that the wind is in a favourable direction for stalking, arrangements are made for a start accordingly. In nearing a point where deer may reasonably be expected, the services of the stalker are of immense importance. To a stranger, there are in most forests certain objects which attract attention, and not unfrequently present the appearance of deer; and as the result, the attention is not only distracted, but time wasted. All this is avoided when matters are left entirely to the stalker, whose experienced eye is familiar with all the boulders, benty tufts, and other objects by which the inexperienced are apt to be misled in their anxiety to discover deer. Matters being left to the stalker, he will be careful to be a little distance in front, scanning, with the aid of his telescope, every bit of fresh ground as it comes in sight.

It is difficult to realise the interest and suspense experienced by the excited sportsman when the stalker indicates that he discovers the watchful herd of deer leisurely grazing along the mountain-side or resting securely in the sheltered corrie, with the wily hind in a more elevated position acting the part of sentinel. The confidence which the antlered portion of the herd place in the loyalty with which the hinds discharge their duty as sentinels, is seen from the apparent indifference and conscious security which they exhibit in such circumstances. It is only in cases of desperate peril that they will hesitate to follow the hinds when the sportsman is in pursuit.

There are times, however, when, being driven by a line of beaters from behind into the "pass," and discovering the rifles lying in wait to receive them, they will wheel like a troop of cavalry into a compact mass, and stand until their course of action is decided upon. When the alternative of breaking through the beaters has been resolved upon, and the hinds hold back hesitating and afraid to take the lead, the old stags may be seen pushing and pressing them on with firm and resolute purpose. Sometimes, as occasionally happens, the hinds obstinately refuse to turn and face the noisy host of drivers. In such circumstances the noblest and largest stag will often be seen to rush towards the front, and with a courage and promptitude which requires only to be seen to be admired, will break through the line of the advancing beaters, preferring this alternative rather than subject himself and his followers to the fire of the rifles which he suspects to be lying in ambush in advance.

While in a number of the high-rented deer-forests in the Scottish Highlands no great exertions are required to discover deer, it is in many other places very different. Indeed we have known shootings where, although deer were fairly numerous in the district, several anxious days have been spent without their being seen.

Some years ago a couple of sportsmen took a shooting in the immediate vicinity of a deer-forest, and were exceedingly anxious to kill a stag. Though led to understand by the advertisement of the shooting

DEER BREAKING THROUGH AMONG THE DRIVERS.

that "deer were almost constantly on the ground," they had failed to get a shot till October was far advanced, and the "rutting" consequently begun. As the birds had become very wild, and grouse-shooting had thereby lost its attractions for the season, they devoted a few of their last days, prior to going South, in anxiously endeavouring to get a shot at deer. For some days previously they had been kept in the house owing to the inclemency of the weather, which had resulted in giving the hills a coating of snow. Armed with express-rifles and the necessary ammunition, they on the morning of their last day set out with the keeper in great spirits, having heard from a shepherd on the previous evening that he had just seen a number of stags on the ground. After an hour's climbing to the hill-top among the snow, they stopped for a few minutes till the keeper surveyed all the ground within sight with the telescope. This was a simple matter, as any object was easily discernible on the snow. The sportsmen remarked it was no use putting off time, as deer could be seen miles off with the naked eye on the white ground. The keeper replied he saw something, but could not make out what it was, and would like to watch it for a minute or two, to make certain whether or not it was a "beast." Requesting the glass, they scanned all the ground in the direction the keeper was so intent watching, but as neither could make out anything the least like a deer, they again stated they were only putting off time, and handing the glass to the keeper, started

off, expecting him to follow them. He, however, not being satisfied, took another look at the distant object, and was rewarded by seeing a stag rise from behind a bit of rock where it had been partially concealed, look round, and lie down again. He called to the gentlemen, who quickly rejoined him, and one after the other looking through the glass, distinctly saw the object of their desire, the head and horns this time being quite visible. A council of war was at once held; but it was discovered that the stag had taken up a most unapproachable position, having placed himself on the top of a ledge of rock. Only in one way was it possible to get near him, and that was by going windward, which, of course, was out of the question. By going round a long distance and approaching him from the opposite side, the keeper saw they could get within about three hundred yards of him. This, he indicated, seemed the only chance of a shot. They started on this mission, but unfortunately they found they had a ridge to cross which would necessitate them to be exposed for a short distance. They, however, managed to wriggle on their bellies at about the rate of a yard a minute, and succeeded in crossing the ridge unobserved. The nature of the ground then enabled them to walk upright for a considerable distance, till they got within five hundred yards of the stag. At this critical juncture a large fox was seen galloping along the hillside in the direction of the stag, which he was not slow to perceive, immediately jumping to his feet and trotting off, pass-

ing within three hundred yards of the rifles. As they lay flat, they were quite concealed by a small hillock from the stag, and as he was passing broadside he afforded an excellent shot, though at too distant a range. Seeing it was their only chance, however, they opened fire, the four barrels being speedily discharged, but without effect; and the stag, instead of running away, stood still, utterly bewildered. The loading of the rifles was but the work of a few seconds, when another volley followed, with similar results; but the stag this time getting sight of the sportsmen, made off. As he had several hundred yards to run before getting out of sight, they blazed away as long as they could see him, and it is almost needless to say, without any practical result. The keeper was lying flat on the snow watching with eager interest, expecting to see the stag roll over as shot after shot was fired; and when it disappeared, he turned to the sportsmen, and saw to his mortification that they had been firing without having put up the sight adapted for the distant range. As soon as the stag had disappeared, the sportsmen naturally concluded that some of the bullets must have taken effect; and on asking the keeper what was his opinion, he replied that "if he was hit they would easily discern blood on the snow." On getting up to his track, however, no blood was to be seen; but they at once made up their mind that they would follow him, in the hope that they would again renew acquaintance with the object of their pursuit.

This expedient would not readily commend itself to an experienced forester; certainly it did not meet the hearty approval of the keeper on this occasion.

As the track of the stag was easily seen on the new-fallen snow, the sportsmen walked on at a rapid pace, and the keeper, who by this time had made up his mind to follow them and say nothing, brought up the rear in silence. As the track led them over the ridge of a hill, seven stags, which had been feeding in the burn-side, at once got sight of them and made off. This caused them to abandon pursuit of the one and follow in the direction of the seven. As they disappeared over the sky-line, the sportsmen hurried to the place where they were last seen, and after a long run down hill and a severe climb, they again got within sight of them. They seemed very restless, as if aware that they were watched, and kept constantly looking round. Seeing that to approach them at this time was out of the question, the sportsmen sat down, and for a long time watched their motions. After the lapse of an hour the deer separated, four going down into a small corrie and three in an opposite direction. The keeper, knowing the nature of the ground, thought that a shot might be got at the four, and for this purpose they at once started. They, however, found they could not get nearer than four hundred yards, and in spite of the keeper counselling them to wait, they opened fire, and poured several volleys into the group of the four stags. One of them appeared to be hit on the head or horn, as it ran holding its head sideways for a consider-

able distance. One of the sportsmen was so much excited that he started in pursuit, endeavouring to keep up with them by running. The folly of such a course will appear evident to most men who know anything of deer-stalking, and yet it was the means of his not only getting a shot, but of his killing a stag. As the deer ran down a long hill, the sportsman lost little or no ground, as they trotted and cantered alternately, keeping five or six hundred yards in advance of him. He saw that when they reached the bottom they must either turn to the right or to the left, or climb up the steep face of a hill, and in any case he was determined to have a shot. They chose the latter course, and in single file began the ascent. He ran on as fast as he was able, and on reaching the bottom, sat down and again opened fire. The foremost stag being the largest, attracted his attention, and at him he aimed as steadily as his heaving chest would allow. It is almost needless to say that he loaded and fired a good many times in succession without any of the shots taking effect till the deer had got far out of range, when they stopped and looked round, showing their broadsides the one just above the other. Notwithstanding the distance, he took a deliberate aim at the leader, but his bullet falling short, struck the third one, which brought it rolling down the declivity. His joy knew no bounds, and as the stag came half rolling, half sliding down the hill, he hurried up to meet it. As he approached it—although its backbone was broken, and a fearful hemorrhage caused inside by the expanding

bullet—it made a charge at him, and had it not been retarded by its broken back, the consequences might have been serious. He went back a short distance, and putting a bullet through its heart, terminated its sufferings. His companion and the keeper thought he was mad in attempting to get a shot by running after the deer, but hearing so many shots, hurried to the scene, and were not a little surprised to find him examining the dimensions of a stag with a beautiful head of ten points. One of the points, however, was almost cut off, a bullet having gone through it, which no doubt was the cause of the one referred to running with its head sideways.

Deer-stalking such as we have been describing, will no doubt be condemned as an outrage upon every principle by which sport is regulated, as the result frequently is, not only the infliction of pain upon the deer, but in many cases they are utterly lost by being left to die undiscovered. This amusing incident in "deer-stalking" is, however, not without its lesson. These English gentlemen were induced by a species of advertising—which in the business world would be simply characterised as grossly dishonest—to pay a large rent, and, in addition, to spend several hundred pounds in collateral expenses, under the impression that they would at least have several opportunities of killing deer. The result in this case was, that during the entire season the episode to which we have referred was the only occasion when an opportunity for firing a single shot was realised.

When grouse-shootings are separated from deer-forests by a wire fence, as many now are, it is rare that a shot at deer is got during the proper season. After the rutting has commenced, however, they are to be found roaming about, and a fence four feet in height is no hindrance to their rambles. In several forests in the Highlands, the proprietors have a wire fence seven feet high all round. This we consider is most objectionable, as in snowstorms the fence in gullies is frequently drifted over, when the deer pass out to the lower ground in search of food, and when fresh weather returns, the fence which was put up for the purpose of keeping them in, is the very means of keeping them out.

It is perhaps worthy of note that the fence along the sides of the Highland railway, though only three and a half feet high, completely separates the deer in the Highlands. Before the construction of the railway, the "deep corrie" at the county march between Perthshire and Inverness-shire was a favourite "pass" between the forests of Giack and Benalder, and was very frequently the habitat of deer. Now, however, they are a rare sight in that locality. We have often followed their tracks in snow coming direct from Giack till they were retarded by the railway fence at the place referred to, when they would walk along the side of it for five or six miles, then leave it and go in a direct line back to Giack. Notwithstanding that there are numerous bridges below which they might have passed, we never on

any occasion saw their tracks below one, nor did we ever see them jump the fences, though they are no higher than the sheep-fences which surround many forests, and which they are in the habit of jumping frequently. Though this is our experience after studying their habits for many years, we have heard of rare instances of them crossing the railway, and on one occasion, between Dalwhinnie and Kingussie, a stag, while jumping, got his hind leg between the top and second wire, and became tightly fixed. A railway surfaceman finding him thus entrapped, speedily despatched him with his key-hammer.

It seems strange that while jumping higher fences with apparent ease, they have such reluctance to cross those in question. We can only account for it by the fact that they are never allowed sufficient time to get accustomed to them till they are startled by a passing train, and which in the dark must present to them a sight studiously to be avoided. During the day, we have witnessed deer near the railway when a train passed. They ran back a few hundred yards, then stood and looked till it disappeared in the distance, when they, as if afraid of its returning, made off.

While deer-stalking is one of the most exciting of field-sports, it is also one of the most arduous, and puts a strain upon the physical capabilities of those who indulge in it unknown in any other kind of sport in this country. Even rowing, racing, or leaping is not to be compared with it. The physical ex-

ertion in such cases is of brief duration, while that of deer-stalking is as continuous as it is toilsome.

There are, however, circumstances where excellent sport can be got without any undue exertion, deer being numerous and the forest easy of travel. These conditions are found largely, if not literally, to exist in some of the higher ranges of the Duke of Athole's forest. Here the deer are to be found as numerous as black cattle, or even sheep, in many of the sheep-runs and mountain-ranges in Argyleshire. It is but right to observe, however, that while this is so, the hinds constitute a very large proportion of the number of deer, while old and heavy stags are only to be found in moderate numbers.

Seeing that all stags annually cast their horns, it has been to many a matter of surprise that, where stags are numerous, larger quantities of cast antlers are not to be seen during the summer season, even where they have not been collected by the foresters. The tradition that stags bury their horns in the moss is, so far as we are aware, unsupported by any evidence whatever. Many are slow to believe that the deer themselves eat their shed antlers, on account of their extreme hardness. Several instances, however, have been recorded of their being seen in the act; and if not sought for at the shedding-time, pieces of them only will be found three or four inches long, with the burr end intact, while the marks of chewing are quite visible. A general notion prevails that the cast horns of stags

are eaten by hinds only; but from observations in such places as the sanctuary of Strathconan forest, which is almost exclusively the habitat of stags, they are found eaten till within a few inches of the base, in the same manner as in places chiefly frequented by hinds. That both hinds and stags make a practice of chewing cast antlers will not be disputed by any intelligent forester who has given attention to the subject.

In such forests as Fealar, where there is a great number of hinds and harts of two and three years old, the difficulty of stalking is greatly increased. These, as a matter of course, are ever ready to apprise the coveted stag, with ten or twelve points, of the approach of the stalker.

In September 1883, we were privileged to enjoy a day's stalking in the Fealar forest, and had thus ample opportunity of observing the difficulties with which sportsmen have to contend by reason of the large number of deer with which the forest abounds. A few notes of that day's proceedings will show that the difficulties of deer-stalking are not confined to scrambling among rugged mountain-steeps, where deer are scarce, timid, and watchful.

Starting early from the lodge in company with Donald Lamond the stalker, a gillie, and Sandy Grant with the pony and deer-saddle, we proceeded on the pathway in a south-easterly direction. After walking about half a mile, we spied the face of Coire-Breac, which was literally swarming with deer; but

as no stags of any size were discernible, we passed on and found Carn-an-righ without a deer of any description. Turning round the shoulder of the hill, we pursued our course towards Lochan face, which is rarely without a stag. Here a large golden eagle sailed over our heads within easy gunshot, looking defiantly down on us, as in wide aerial circles it sped its way towards Meall-na-spionaig, possibly to feed on the "gralloch" of a stag which had been killed the previous day.

On getting within sight of Ben-y-Gloe, we observed large numbers of hinds and two or three good stags browsing leisurely on the face low down, near Lochan burn; but as these were across the march, we paid little attention to them. Having the wind right, we walked forward, spying carefully every part of the hillside as it came in sight, and were rewarded by finding, among numbers of hinds and small stirkies, a heavy stag with a good head. To stalk him required no little stratagem, from hinds being interspersed all over the mountain-side. After a deal of manœuvring, however, and crawling on our bellies for a considerable distance among water-courses and morasses, we deemed ourselves within range, though we, by a small ridge, were completely hidden from the stag. At this juncture an alarm was given by the discordant croak of a ptarmigan on an eminence above us. Ever ready to turn to instant account the startled cackle of the grouse, or the plaintive cry of the plover, or indeed the dis-

turbed movements of any living thing, an old hind with a calf ascended a knoll, from which we were entirely under her gaze. "Lie still," whispered Donald, "and don't move a muscle," as the hind, like a sentinel on duty, with eyes and ears directed towards us, was evidently trying to make out what we were. The pain inflicted by a pointed stone below our ribs was becoming unbearable, when the hind, seemingly satisfied, walked away, followed by her calf. Looking up, we saw them disappearing over the ridge referred to. "They'll no go far," remarked Donald, "as they have never got our wind, and the hind did not make out what we were." From the manner in which they walked away, we were of opinion that Donald's remark was correct, so we went forward to the ridge to watch their movements. Peering cautiously over, we saw them with heads erect gazing in the opposite direction. "Get ready," remarked Donald; "it's 'Donald Molloch,' who has been watching us, trying to turn them back with his dogs." Donald Steward—who, from the remarkable strength of his beard, has earned the *sobriquet* of "Donald Molloch," signifying Hairy Donald—has for a long series of years lived in a bothy at a place called Dalcronachie, at the side of Lochan burn, close by its junction with the Tilt, and opposite the "Queen's Seat," where her Majesty partook of luncheon when travelling from Blair Atholl to Braemar in 1861. From his bothy being in a glen, which is invariably the habitat of

deer—his duties being to keep the sheep from crossing from Ben-y-Gloe into Fealar forest—they have become familiarised with him, and may frequently be seen feeding in close proximity to his bothy when he and his dogs are sitting outside. He having been watching the stalk, thought they were aware of our presence, and hurried up the hill, thinking that with the aid of his dogs he could turn the deer within range, as he had frequently done before. The deer, however, paying very little attention to either him or his dogs, turned up the hill at right angles and crossed the mountain-ridge. Donald confidently asserted that they were in no way scared by "Donald Molloch's" interference, and we would be sure to find them again in Dhuibh-crag-an. On ascending the hill, sure enough there they were, feeding about half a mile off. Keeping below the sky-line, we turned to the left till we got round the shoulder of the hill, when we had to cross a bit of heathery ground to get into a burn, up which we could crawl till within 150 yards of the deer. In crossing the heather we observed a fox lying curled up, and but for disturbing the deer, it certainly would have attracted our aim. After watching him for a minute or two, his eyes riveted on ours, we made a step towards him, when he jumped up and scampered off. A number of the deer, including the large stag, had lain down, while the remainder were browsing greedily around. After waiting some time the stag rose, and also commenced to feed. Crawling up the bed

of the burn referred to, we got within about 160 yards of him. In a short time he turned, showing his broadside, and immediately after he dropped to shot. After having him "gralloched" and put on the pony, we sent him home with Sandy Grant, giving him instructions to rejoin us on the Tarff side.

After eating lunch, we crossed the Glenmore burn to Tul-a-break, where we spied the face of Corrie-na-Craig. Groups of hinds were scattered over the whole hillside, with a considerable number of small harts in each group; while on the sky-line, near the march, with a few hinds, were two large stags with good heads. Crossing the Tilt above its junction with the Tarff, we proceeded for a considerable distance up the side of that river, with the view, in the first place, of getting the wind in our favour. Lots of hinds were browsing both on the D'un-Mòr and Carn-Dearg side of the Tarff; but getting our wind, they speedily scampered off. Our object now being to stalk the large stags on the sky-line, we ascended the hill. As we got near the summit, Donald stated he would now at the near distance again spy the face of Corrie-na-Craig. Telling us to sit down, he crawled forward to the ridge and carefully scanned the ground with the telescope. Looking back, he signalled us towards him, beckoning us to crawl with great caution. On getting forward he pointed out a "royal" lying down, and which we had not observed when spying from Tul-a-break. From within a few hundred yards of the

Tarff to Loch Tilt the whole hillside was covered with deer, which rendered the stalking of the "royal" no easy matter. Donald thought, however, that by crawling down the green "pass," about half a mile distant, we might get within a hundred and fifty yards of him, and accordingly we started on this mission. Creeping cautiously back till getting behind the summit, we proceeded towards the "pass" referred to. This brought us within sight of the stags on the sky-line, which speedily disappeared. Creeping down the "pass" feet foremost was no easy task, as for twenty yards we were exposed to the view of some of the hinds. By stealthy and slow movements, however, we succeeded in passing unobserved, and were congratulating ourselves on our success, when, on peering through some heather, we discovered the object of our anxiety, not within a hundred and fifty yards as we expected, but about four hundred yards off, rolling in a moss-hole, to which he had betaken himself. On emerging from his peaty bath he appeared as if transformed into a black stag, and began tearing up the heather with his horns. For a long time he indulged in this pastime, and in consequence of our having crawled among water, and a north-east wind blowing, we shivered with cold. To get nearer the stag was impossible, and to remain where we were was to give us little chance of a shot. What was to be done? Donald suggested that he would crawl up to the gillie, whom we had left at the top of the "pass," and

instruct him to go back to the Tarff side, and tell Sandy with the pony to go up the Tilt under the bank to the red scaur on the opposite side, where the deer would wind him. He would also instruct the gillie to come back to his present situation till he saw the deer startled, then run round that large lot near Loch Tilt, and they would all come up the "pass." Seeing this was our only chance, we concurred in the suggestion, and Donald started accordingly. In about half an hour he returned, when we lay and watched eagerly those nearest the red scaur referred to. As is usually the case, a hind was the first to realise danger, and stood with head erect sniffing the tainted air. In a few seconds the heads of all the deer on the hillside were facing the direction indicated by the hind. As soon as they were satisfied that they had scented an enemy, they ran together into groups, ever and again stopping to look back, evidently endeavouring to discover the presence of a hidden foe. The gillie had headed the large lot near Loch Tilt, causing them to come in our direction, and very soon all the groups concentrated into one large herd of at least 1500 deer, and began to ascend the "pass." Keeping our eye on the "royal," which was easily known from his dark colour and large size, we sat under a ledge of rock while the unsuspecting herd came past within easy range. As the "royal" got opposite us, he was so completely hemmed in by hinds that it was impossible to get a shot at him. He kept in the

bed of a small water-course, so that the hinds on either side were higher than he was, and with the exception of the top of his back and head and horns, he was completely hidden from view among the moving mass of deer. After passing us about fifty yards he got out of sight, so that there was no alternative left the sportsman but for him to pick out the two best stags he could see, and take a "right and left" at them. The first one dropped in his tracks, but the second, being struck too far back, left the herd and turned down hill. Instructing the gillie to "gralloch" the stag, signal up Sandy and help him to put it on the pony, we started in pursuit of the wounded one. The expanding bullet having passed through his bowels, he could not face the hill, but kept slanting downwards towards the Tilt. Keeping out of sight, we watched him from a distance after he separated himself from the herd. To have followed him in close pursuit in the circumstances was to have lost valuable time, and probably in the long-run, having no dogs with us, to have lost our stag.

It is a great mistake which stalkers often commit to run after a stricken deer. Unless the bullet has lodged in a vital part, the wounded animal, discovering its enemies in pursuit, is sustained by the consequent excitement, and will thus strive hard, and often successfully, to keep up with the herd for a very considerable distance. When the stalker is positively certain that the shot has taken effect, there will frequently be a loss of blood from the wounded part of

the animal. By remaining quiet, and watching the wounded deer, he will be able by the aid of the glass to discover its movements. If it sees no one in pursuit, it will naturally fall behind, or turn to the right or to the left, as shall be determined by the incline of the ground. As soon as it finds itself isolated from the rest, it will lie down in some spot where it is not likely to be observed. In this position, the wounded part will speedily become stiffened, while the probability is a sickening sensation will take possession of the deer. After the lapse of a comparatively short time, by ordinary prudence the wounded animal may be approached till within a very short distance, and speedily despatched by another well-directed shot.

Recurring to our wounded stag in Glen Tilt, it, in consequence of the loss of blood—as is frequently the case—took to the river. As it disappeared over the bank of the Tilt, we ran forward, and on looking over, saw it staggering down the middle of the river aided by the current, while evidently in a fainting condition. Taking the rifle, Donald ran on above the bank to the Falls of Tarff, and as the stag approached, still keeping the middle of the water, he despatched it. After pulling it to the bank we had it "gralloched"; and as the afternoon was far advanced, we wended our way to the lodge, and sent down a couple of gillies and a pony to bring home the last stag. Thus ended a day's sport, during which we must have seen upwards of 2000 deer. In such circumstances, one of the greatest difficulties we had that

day to contend with, arose not from the paucity, but from the excessive number of deer with which we were continually beset during our stalking operations.

We have read somewhere, in a work on deer-stalking, that the difficulties in getting within range of deer which had strayed from the forest into sheep-runs, were greatly increased by reason of their being constantly on the outlook for shepherds and their dogs. This we regard as a popular mistake. Speaking not as a mere theorist, but as one who has had practical experience, we should much prefer to stalk deer under the latter circumstances, than in a forest where they are numerous and where shepherds and dogs are never seen. As we have already pointed out, deer, like all other sorts of game, very soon discover the design of the intruder; and when that is of such a nature as not to threaten them with danger, they become to a large extent indifferent as to his presence.

A few days before the season of stalking terminates, it is no unusual thing, in some of those forests where deer are numerous, to devote one or two days to a "drive," which is perhaps the most exciting of all sport. As in the case of such minor enterprises as grouse and black-game driving, very much depends upon the drawing up of the programme of action, and its being rigidly adhered to by both sportsmen and drivers. As in the field of battle, everything depends upon most perfect discipline, and an intelligent apprehen-

sion of the situation by all concerned. If the right or left wing of the beaters is too far in advance or too much in the rear; or if a sportsman is placed in a false position, or allows himself, by impatient curiosity, to be seen; or if he is too late in taking up the position assigned to him,—any of these mistakes may to a large extent spoil, if not altogether prove fatal to, the successful carrying out of the enterprise.

As deer are much easier driven up hill than otherwise, it is desirable that the rifles should be placed in the "passes" on the rising ground. If, however, the forest is of limited extent and a mountain-ridge the march, they, as a matter of course, must be driven from the tops downwards. In such circumstances, half of the beaters should go to the extreme right, and half to the extreme left, and thus make their way round the march till they meet in the centre. A beater should drop off at every conspicuous part along the sky-line, and at the principal "passes" which the deer are likely to take if they face the drivers. Should deer be observed beneath, a beater ought also to be stationed above them, in order to startle them when the signal is given to advance. As the arranging of the beaters necessarily requires a considerable time, the head forester, knowing where every man should be placed, will take care to have the rifles stationed in the principal "passes" on the hill-tops on the opposite side of the glen, it may be several miles distant. Every man in his position, the forester in charge will go to a conspicuous place and show a

flag, indicating that all is ready, when the beaters will simultaneously advance. When deer are startled, they are most reluctant to go down hill, naturally running along the hillside, tending steadily upwards, in order to regain the summit. A glimpse of a beater above them will make them quicken their pace forward or possibly they will turn back; but should they discover beaters above them all along the ridge, they will then descend to the plain and make for the rising ground on the opposite side of the valley. It is a great mistake for beaters, when the deer are inclined to break back, to show themselves too prominently, and halloo and whistle, which in their anxiety to turn them is frequently done. When a beater has made certain that the deer have once seen him, he should occasionally stoop and conceal himself. When deer have once seen a man and lost sight of him, they become suspicious, and will not trust themselves to remain in such circumstances, but generally scamper off in the opposite direction. By a beater partially concealing himself as if in the act of stalking, deer are more frightened than when showing himself at full length. When deer are stiff to drive, it is desirable not to press them too hard, as, by manœuvring as above described, they will go much better than by pressing them, and are not so liable to break through among the drivers. When beaters are near at hand, deer seem to be able to calculate the distance, and how long it will take to clear a given space of ground; and if they once bolt back, it is almost impossible to stop

them, more especially if they have discovered danger ahead. When a herd is being driven, the sportsmen in the "pass" must be mute and motionless, and take care to be on the lee side of the "pass." They must at the same time keep a sharp look-out, as the deer approach so noiselessly that they will be close upon the rifles in ambush before there is the slightest indications of their presence. If seated under the shadow of a rock, or where a commanding view of the approach of the herd is secured, the sportsman can "dictate his own terms" by marking out the heavy stags as they advance; but if in a position where the herd cannot be seen approaching, care should be taken not to shoot at the first to appear, for, as already observed, the heaviest stags generally bring up the rear. Another important consideration to be kept in view is, that when shots are fired at the first deer that approach, those in the rear frequently turn back, and either break through among the drivers or by a wide circuit effect their escape. If, on the other hand, a number of the deer are allowed to pass, there is a disposition on the part of others to press forward. If the "pass" is a wide one, gentlemen should, before the deer come up, note any stone or other object at different places, with the view of ascertaining the distance, and keep this in mind when the deer are passing.

Where circumstances admit of it, each sportsman should survey the ground with his glass, and scan the approaching herd, with the view of picking out

the largest and best stags, so that he may know them when they enter the "pass." If not too large a herd, it is advisable to count them ere they approach, so that he may judge when it is expedient to fire. Another advantage from ascertaining the number is, that in the event of one or more being wounded, and thereafter being out of sight for a time, the sportsman, on the herd again coming into sight, will be able, by the application of his glass, to make sure of the number, and thus ascertain whether any have fallen out of the herd. If so, he will have little difficulty in overtaking the stricken one; but if the entire number keep together for a considerable distance, he may, with some degree of certainty, conclude that no result likely to prove fatal will ensue. In this, however, it is possible to be mistaken, as it is no unusual thing for deer to have been struck and run for a considerable distance. Hence it is of the utmost importance that the aim should be directed towards a vital part. In order to this, we would discourage the practice of firing at long distances.

The loss of time and interruption to sport arising from this practice are very great. By these long shots the deer are frequently so wounded as to be able to run very considerable distances. It is here where it is found necessary to have recourse to dogs. By this expedient the stricken deer will, as a rule, sooner or later be brought to bay; but with this—more especially if the dog give tongue—the day's sport often

terminates. A diversity of opinion exists as to what kind of dogs are best for recovering stricken deer, and some of the most experienced stalkers denounce the using of dogs of any description. We, however, prefer the use of collies, from their being easily trained quietly to track a wounded deer, keeping in advance of the stalker at a walking pace. By this process the stricken animal can be followed until it is seen, when, by keeping the dog "to heel," a fresh stalk may be obtained. We do not approve of allowing them to pursue wounded deer by speed, as, when they bring the animal to bay, the mischief they do is quite heartbreaking. From the loud yelping peculiar to collies, they disturb any deer that may be in the forest within a wide circuit. We would suggest that collies should be first thoroughly trained to sheep before going into the hands of the stalker. They can then be utilised for heading deer when about to go off the ground. It is desirable not to have them of a dark colour, as anything dark is easily discernible on moorland; in fact, the nearer they can be had to the colour of deer the better.

In thus giving preference to collies, we are aware we will be subjected to the criticisms of the admirers of that noble animal the stag-hound—immortalised by Sir Edwin Landseer. No doubt, if a stag is wounded and falls behind the herd, by slipping a hound, from its great speed and power, it will have the stricken animal killed or "bayed" in a few minutes. Unlike most collies, stag-hounds are mute when chasing, and

thus other deer in the forest are not so much disturbed. At the same time, if the object of a hound's pursuit go over a ridge or otherwise get out of sight, it is apt to chase the first deer it gets its eyes on, seeing it runs by sight only. In this manner no end of mischief is done, while the wounded animal frequently escapes.

In most forests the practice of shooting hinds is more or less resorted to. This kind of sport is generally reserved till near the end of the year, when they are always in good condition. It is no unusual thing to find them lined with fat like a well-fed wedder, more especially when shot before any heavy fall of snow has overtaken them. On account of the boisterous and wintry season which generally prevails when hind-shooting is prosecuted, it is rarely indulged in by sportsmen, unless in the case of those who are young and full of energy and enthusiasm. Hence it is generally left to the foresters, who are able to shoot down the desired number in a short time, from their knowledge of the habits of the hinds, the places they frequent, and the "passes" they will take when disturbed. Hinds are more difficult to stalk than stags. The antlers of the latter afford the stalker an advantage, as they can frequently be approached without that danger of being seen which has to be encountered in the case of hinds, which, in addition, are generally more watchful. At the season when hinds are hunted, the hills are frequently covered with snow, which consequently renders the stalking of them still more

difficult. An inch of the top of the stalker's cap over the ridge of a hill, or the slightest movement by the ledge of the rock, is readily noticed, while the "crisping" sound caused by the footsteps upon the snow affords a ready warning to their willing ears. Even after the stalker has wormed himself within shooting distance, the difficulty in selecting a "yeld" hind is frequently great. We have more than once seen nursing ones killed by mistake, even by those most competent to judge. Though, as a rule, "yeld" hinds are picked out, we do not think hind-shooting should be confined to these. It is no unusual thing to see a large old hind followed by a two-year-old, a one-year-old, and a calf, and in rare instances the two latter have been seen one at each side sucking the dam at the same time. In such cases the family compact is maintained, and the society of other deer generally shunned. If the two-year-old is a stag, it has by this time arrived at a state of sexual maturity; and facilities are thus afforded for close breeding, which every experienced stalker knows must sooner or later manifest itself in the deterioration of the species. When cases of this kind are discovered, the old hind should attract the aim of the stalker, and thus cross-breeding would be encouraged. From the large number of hinds as compared with stags, it is the opinion of many that more females are calved than males. This, however, does not comport with our experience, nor with that of some of the most observant and experienced foresters.

Mr Campbell, head stalker to A. J. Balfour, Esq., in Strathconan forest, and whose authority we accept as second to none, says that for a dozen seasons he has killed each season from fifty to a hundred hinds towards the close of the year; and after careful examination, he has found that adult hinds were almost without exception pregnant. In no case did he ever find twins in the womb, while he found males and females in about equal proportions. From the number of barren hinds, it will be seen that a great mortality must necessarily take place among the fawns, or that they must be destroyed by birds and beasts of prey. No doubt, after severe winters —the hinds being greatly reduced in condition— many of them drop their calves prematurely, which in some degree accounts for the large number of "yeld" hinds.

Here a day's hind-shooting may be worth recalling, more because of its showing the contingencies that arise between the sighting and shooting of hinds, than for any value which may attach to it as a description of a day's sport among the mountains amid storm and snow.

Rising early and having breakfast before it was light, we started shortly after daybreak. The weather had fairly broken, and as we proceeded up the glen, had to face a bewildering storm of sleet and snow, which caused us to walk half doubled, with our heads down, in order to protect our eyes from being blinded. An hour and a half's walk brought us to

the top of the glen, when, by a circuitous path—here and there hidden by snow-wreaths—we ascended to the top of the hill. On reaching the summit the wind increased in violence, driving the snow before it with impetuous force. To use the glass was impossible, but we were fortunate enough without it to discover something dark on the face of a hill—the opposite side of a small glen—and that something turned out to be deer. Keeping to the right to avoid giving them our wind, we without much difficulty got round above them. By a slow and laborious crawl—during which the wet snow got down our neck and up our coat-sleeves, and soaked us to the skin—we got within a hundred yards of the nearest, a hind and calf. To get nearer was impossible, and observing a large yellow or golden-coloured one about thirty yards farther off, we selected her for our aim. There were about thirty of them altogether, including hinds, calves, and a few small stags. Aware of the danger of crawling among snow with the rifle exposed, we kept it in the cover till this critical moment, and while in the act of uncovering it, the hind with the calf referred to, evidently apprehended danger, and kept staring in our direction in a most suspicious manner. Those of the herd which were lying, instantly jumped to their feet, shaking off the snow melted by the heat of their bodies, and causing it to fly from both sides of their mane in showers of spray. The rifle uncovered, no time was lost in bringing it to bear upon the object of our selection.

Several times we were on the point of firing, when a flake of snow would strike us on the eye or fall on the sight of the rifle, causing us no little annoyance. Pressing the trigger at last, the rifle "snapped," and a "bark" from the nearest hind, which had made sure we were an enemy, caused the entire herd to scamper off. With a not over-polite denunciation of Eley Brothers and bad cartridges, we took a running shot with the second barrel, but without effect.

After a couple more stalks, which proved unsuccessful, we saw about a dozen hinds lying in a most favourable place. As it was next to impossible to shoot in the face of such a hurricane, we "shaved" the wind, having the deer almost to leeward of us. To have gone a yard or two farther to the left, they must have winded us. Crawling forward and looking over a bit of rock, we beheld them lying in peaceful security at about eighty yards' distance. Placing the telescope on the rock to make the lean for the rifle the proper height, we gave a whistle, with the view of causing the deer to rise. A very large one was the first on her feet, and taking a steady aim at her heart, we pressed the trigger. Unfortunately, at that moment a small three-year-old was in the act of rising between the rifle and the hind aimed at, when, intercepting the bullet with its head, it was of course killed on the spot. As the herd galloped off in straight line from where we stood, and as they never stopped to look round till several hundred yards off, we did not fire a

second shot. As it was impossible to get a pony to the place in consequence of the snowstorm, there was no other alternative but to shoulder part of the venison and carry it home. It was a fine young hind in good condition, although not so fat as a full-grown one. After "gralloching," and cutting the carcass through the middle, we started homeward carrying the haunches; and by the time the lodge was reached, three miles distant, they, along with the 500 express, constituted a sufficiently heavy burden.

The season of the year at which hind-shooting must necessarily be prosecuted, renders it not only most arduous, but it is not altogether unattended with danger. It is not an unusual thing for sportsmen, while engaged in grouse-shooting, to lose their way among those volumes of mist which settle down among the mountains, dense and wellnigh impenetrable to the human eye. During the long days in August and September, when the weather is genial, no serious danger is to be apprehended. It is, however, very different when those out hind-shooting become enveloped in one of those impenetrable fogs, with a heavy fall of snow, while the piercing north-east winds, charged with frost, threaten to congeal the blood when active exercise becomes no longer possible. Such were the circumstances by which we were overtaken in connection with a hind-hunting expedition. Having accepted an invitation for a couple of days' hind-stalking on the southern shoulder of the Grampians, in company

with an ardent sportsman we left Edinburgh shortly before Christmas, with the weather all that could possibly be desired. The temperature was mild in the extreme, while the sun had shone out for several days, brilliant as at midsummer. We spent the night at Pitlochry, and with a carriage and pair posted northward by the light of the moon several hours before daybreak. After encountering several partial blocks of snow upon the road, we reached our destination early in the forenoon. Without loss of time we directed our steps towards the forest, where we found the snow lying to the depth of twelve or fifteen inches, and in some of the gullies there were wreaths twenty feet deep. There was no scarcity of deer; but strange to say, they were all stags, the hinds evidently having left the ground and gone elsewhere. After a day spent in fruitless exertion, we reached the hotel at the Spittal of Glenshee, where we were most comfortably and hospitably entertained. Before leaving Edinburgh, we had met the tenant of the Fealar forest, who informed us that his keepers were killing hinds. Smarting somewhat under the disappointment which we had encountered on the previous day, we resolved to visit Fealar. On breakfasting at the hotel, the morning being clear and enjoyable, we started up the beautiful glen by the side of the river, which finds its rise in Loch-na-nein, on the summit or watershed. Before gaining the outlet from the lake, we had to force our way through several hundred yards of drifted snow, which

filled the top of the valley from bank to bank. This was no easy task, laden as we were with rifles, ulsters, and the necessary change of clothing. The ascent was wellnigh perpendicular for a time. As long as the crust of snow carried our weight, we were able to get along moderately well; but as it ever and again gave way, we frequently found ourselves up to the armpits, and on more than one occasion were wellnigh out of sight. Wearied and utterly exhausted, we reached Loch-na-nein, which, but for the outflow amongst the rugged ice, we could not have recognised, it being entirely frozen over and covered with a thick coating of snow. Having many years before, while grouse-shooting in the north, heard that there was a most comfortable bothy on the shore of the lake, we hopefully anticipated finding a temporary resting-place, all the more to be desired because of an impenetrable fog having settled down upon the whole scene. To our dismay and irrepressible disgust, we in our search came upon the small shieling, with its door and window destroyed, the roof fallen in, and it drifted full of snow. In our extremity we proceeded in quest of Glenmore burn, which, from the map, we believed might lead us to the discovery of Fealar Lodge. Ordinary prudence would have led us to retrace our steps, and by following our footprints, enabled us to find our way back to the Spittal of Glenshee. With that indomitable and—our readers may be disposed to think—foolhardy persistency characteristic of real sportsmen, we preferred to push forward. Turning to the left, we got into

a flat of broken marshy ground, and naturally concluded that Glenmore burn must here find its rise. For several hours we continued to push forward amid ever-increasing difficulties, until the snow and mist became altogether bewildering. Wellnigh exhausted, and unmistakable indications of darkness being about to set in, we took the rifle-stocks from their cover, and as the last desperate expedient, were about to dig a hole or hut in the embankment of a great snow-wreath, in the faint hope that we might thus be able to spend the night. Feeling an inexplicable weariness stealing over us, and knowing the danger of those who fall asleep in such circumstances never again awakening, we resolved on one final effort more ere we became enshrouded in the cloud of night. We had not proceeded far until the pleasing music of Glenmore burn fell upon our ears, towards which we approached. Following its course down the glen, we came to a place usually forded by any solitary pedestrian in that wild solitude. Here we discovered the fresh footprints of a man upon the snow, when we realised something of that inspiration which filled the mind of Mungo Park when his eye fell upon the tiny little flower in the African desert. What, then, was to be done? Darkness was rapidly setting in, and neither the time nor the circumstances would admit of indecision or even hesitancy. To follow the footprints towards the low country, we were sufficiently informed as to know, would be a hopeless enterprise, as there could be no habitation within a distance of many miles. The only other alternative left us was to

trace the human track backward, in the hope that it might lead us to Fealar Lodge, which we knew to be the only habitation within a circuit of many miles in this wild and mountainous region. Physically exhausted and dispirited, we—not without the greatest difficulty—were able to follow the track over three miles of moorland, when hope, the last refuge of perplexed and baffled humanity, had wellnigh deserted us. Here in the darkness we were able to discern what appeared to be the footprints of several men, but which, upon close inspection, we found to be those of a cow. The substantial relief realised by this incident would require a pen more gifted than ours to describe. Pressing forward a very few yards, we discovered ourselves on the bank of another mountain rivulet. On looking across we saw a light, which, on approaching, we found to be that of the object of our search—Fealar Lodge. We now learned that the footprints were those of Mr Thompson, the forester, who had left in the morning for the low country, a distance of sixteen miles, in order to obtain his letters, all communication having been cut off for several weeks. We, however, received a hearty welcome from his widowed sister, Mrs Macdonald, who at once recognising the plight that we were in, supplied us with the means of ablution and warm underclothing, and in a short time had us comfortably seated at her hospitable board.

We have enjoyed many meals during a somewhat busy life in agricultural pursuits and field-sports, but on no occasion did we ever enjoy a repast as we

did that one of venison-soup and its accompaniments. From this incident we have an illustration of the folly of some sportsmen, and of the danger which attends hind-shooting among snow, in regions unknown to the parties concerned.

There is no disputing the fact, that by the attention which has of late years been directed to the land question in this country, deer-forests have come in for a full share of adverse criticism. While there are few among either sportsmen or politicians who would desire, much less defend, the carrying out of a policy which would devote ground capable of agriculture to the feeding of deer, it must not be forgotten that there are immense tracts of territory in the mountain-wilds of Scotland which are more adapted for deer-forests than aught else. Their high elevation above the sea-level, the large preponderance of rock, and utter inaccessibility, render them unfit even for grazing purposes. We do not wish to be understood as affirming that there are not tracts of country occupied by deer which might be devoted to the feeding of sheep. It is a notable fact, however, that deer-forests are confined exclusively to the Highlands of Scotland.

The two most southern counties in Scotland where red deer are to be found are those of Perth and Argyle. The acreage of these two counties amounts to 3,774,208. If we include the counties of Aberdeen, Banff, Bute, Caithness, Forfar, Inverness, Ross, and Sutherland, the aggregate acreage of these ten counties amounts to 12,391,115. Of this extent 2,006,926 acres, or nearly one-sixth of the whole, are

devoted to deer-forests. It is proper to state, however, that in certain of these forests there are still a number of sheep and black cattle. The aggregate rental of these forests amounts to upwards of £143,000, while nearly £100,000 of this sum is derived from shootings and fishings, with the corresponding accessories of mansions and lodges. The number of deer shot annually in these forests amounts to nearly 10,000. Of this number about one half are stags shot prior to the middle of October, while the remainder are hinds, the most of which are shot towards the close of the year. The greater proportion of these hinds are distributed among the crofters and retainers throughout our Highland glens, and contribute largely to their sustenance during the winter.

Taking home the Stag.

Red-legged Partridges.

CHAPTER XV.

PARTRIDGE-SHOOTING.

When contrasted with that of grouse and black-game, partridge-shooting is regarded by most sportsmen as rather commonplace. Several reasons contribute to this somewhat correct estimate of the sport. The stubble and turnip fields, and low ground-cover, compare most unfavourably with the purple heather and romantic scenery so generally associated with the habitats of grouse and black-game. There is, further, the more homely, we might almost say domesticated, character of the partridge, with which the rural pop-

ulation, and even the school children, are familiar. Notwithstanding these drawbacks, however, during the end of September or in October, when the harvest is gathered in, partridge-shooting constitutes enjoyable sport. We have said "during the end of September or in October," because, as a general rule, we deprecate the shooting of partridges at an earlier period. During the first weeks of September, the young birds are for the most part soft, and only partially fledged, and however plentiful and easily bagged, cannot afford satisfactory shooting to those who know what good sport really is. We are certain that all practical sportsmen will concur in this observation, and agree with us in saying that partridges should not be shot until red in the breast, and until the "pecked" appearance on their head and neck has disappeared. It is only when they have reached this stage of maturity that they are strong on the wing, and fly off with that sharp and healthy whirr which makes it difficult to distinguish young from old birds. Eight or ten brace of this description shot in the month of October, yield more real sport than ten times the number shot at the commencement of the season, when in rising they more resemble corn-crakes than aught else.

It may appear an elementary suggestion, but its importance renders it necessary to be noted, that the first thing to be done in partridge-shooting is to hunt the stubble and lea fields, so that the birds may be driven into the turnips and adjoining coverts. We

have known a couple of sportsmen shoot the entire day in one turnip-field by a keeper hunting the surrounding stubbles with dogs, and driving the birds back into the cover. This, of course, occurred where birds were very plentiful; but where they are more limited in numbers, a knowledge of their haunts and habits saves a great deal of walking and hunting. For example, in "rank" turnips, especially when wet, either by rain or the melting moisture of hoar-frost, they are rarely found at the commencement of the season unless driven in; but should a potato-field or a second crop of grass be in the vicinity, it is a much more favourite resort. Although partridges like sufficient cover to conceal themselves from their enemies, they prefer, as a rule, places where they can "dust" and bask in the sun. As agriculturists crop different ways in different parts of the country, and as the habits of the birds in closely inhabited places vary from those in more rural districts where seldom disturbed, it is impossible to give a uniform description of their haunts. They will frequently be found in the most unlikely places; and on lands where they are often disturbed, sportsmen cannot err in searching by the hedgerows, old quarries, or indeed any quiet place screened from observation.

Since the introduction of reaping-machines, partridge-shooting has in a great measure altered for the worse. The stubble is left so bare that the birds can be seen feeding from a long distance, and are consequently unapproachable. It sometimes happens, how-

ever, that in consequence of heavy rains prior to reaping, the crop is dashed and laid, and the old method of cutting with the sickle has to be resorted to. In such circumstances the stubble is left rough, and birds, if undisturbed, not unfrequently remain there all day, and will of course be readily found. When flushed, they generally fly to turnips, potatoes, or the best and nearest cover, such as broom or young plantations; and should they settle somewhat scattered in alighting, they are more easily bagged, especially if the old birds be killed in the first rise. Coveys thus broken yield the best sport; for when deprived of the old birds, the young become bewildered, and fall an easy prey to the sportsman who has the help of a well-trained dog.

On one occasion, when partridge-shooting with three amateur sportsmen, we were somewhat dissatisfied to find it arranged that we should form one party. We had a fine steady old pointer, while another of the party had a brace of half-broken unmanageable setters, which bade fair at the outset to spoil the whole day's sport. Nor were we wrong in this conjecture; for on entering a field, they were off at once in all directions, and the whistling and shouting to recall them were most annoying. Birds were very plentiful, and some good coveys were driven into a potato-field. Through it we marched in line, and had plenty of shooting, though very few birds were added to the bag, in consequence of the hurried walking, the bad shooting, and the birds being run up out of shot by

the dogs. After shooting over the field, we suggested that, as we undoubtedly had missed some birds, we had better go over it again; but this was overruled, on the ground that it was "putting off time." We, however, with the concurrence of the party, proceeded to rehunt the field, leaving the rest to pass on to another beat, with the result that, after an hour and a half's quiet and agreeable shooting, we killed more birds than they did the whole day.

When shooting either in a turnip or potato field, care should be taken not to fire at too long ranges. Where this is disregarded, many of the birds which have been winged become "runners," and, in the absence of suitable and experienced dogs, will very often be lost. This, it is unnecessary to say, is most irritating to true sportsmen. We have ever laid it down as a rule, that we would rather, even at the loss of a little time, bag a bird of this description than a brace which might subsequently be obtained during the time spent in recovering the "runner."

It is almost impossible to pick up "runners" in rank turnips without the assistance of a retriever; for although a pointer may "road" them up (and point at them), they often slip off again and escape. With a retriever it is very different, the bird being picked up with all despatch.

There are few things more interesting to sportsmen than to watch the movements of a retriever tracking a winged partridge; how he will dodge about among the turnip-drills, running straight up one at full speed,

and on his nearing the bird—by its crossing into another drill—he will overrun the scent. If up to his work, he will instantly retrace his steps, until, again picking up the scent, he, with unerring certainty, discovers the whereabouts of the object of his search.

Retrievers, like other dogs, must belong to a good breed to be truly useful in their work. When this is wanting, no amount of training, or even practice, will make up for the lack of this essential element. Again, when the breed is all that can be desired, training, in many cases, will be very little required in so far as the "roading" and picking up of wounded birds are concerned. As to the general behaviour of the dog—viz., remaining quiet, keeping to heel until told to go, &c.—training is absolutely necessary. In the absence of these qualities, a retriever is often a source of annoyance, as it necessarily demands the attention of the keeper when his mind should be otherwise occupied.

It is surprising how quickly a well-bred retriever will apprehend what is expected of it. There is no class of hunting dogs in which the instinct is more powerful, sometimes approaching almost to intelligence, and in which it is more early developed.

The best performance we ever saw among partridges was by a retriever bitch, nine months old. We were hunting in a field of "rank" turnips—and only on one former occasion had she been out among the partridges. On the pointer finding birds, a covey rose; four birds dropped to the guns, and, strange to say, three were

PARTRIDGE SHOOTING.

"runners." We let the bitch loose as an experiment, and were alike surprised and gratified with the result. Keeping the pointers "down," we told her to "seek dead." She had seen the birds fall, and at once ran to the right place and picked up the dead one. Being directed to seek again, she got on the track of one of the "runners," and stuck to it till she succeeded in catching it. In like manner, the other two were recovered, though one of them had crossed and recrossed several times into an adjoining field.

When shooting over a turnip-field has been nearly completed, a gun should be sent to within a few yards of the margin or "head-rig," as it will probably be found that a number of the birds will have made for the end of the rows before they will be induced to rise. This remark should also be kept in view when pheasant-shooting in like circumstances.

In no case should any sportsman fire into a covey of partridges without discrimination. Few sportsmen of experience will require this hint; still it must be confessed, when a covey of birds overtaken by surprise flutter out from a hedgerow, grassy ditch, or old quarry, in close proximity to each other, the temptation to an excitable and excited amateur to fire recklessly both barrels into the covey is very great. Singularly enough, it will very frequently happen that none of the birds may be killed, but several may be scratched by the side pellets, and those that so escape for the moment may have sustained permanent injury. The practice of firing at random into coveys of

any description is most reprehensible, and should be sternly frowned down by all keepers; and it is a rule, from which there ought to be no exception among sportsmen, that in every case one bird should be deliberately aimed at. Indeed, in all our experience we never knew a sportsman become distinguished as a good shot where this rule was not strictly observed.

Partridge-shooting in wet weather and in high wind cannot be prosecuted successfully or satisfactorily. True, in such weather the birds do not readily hear the approach of the sportsman. It sometimes happens, however, that in high wind they are reluctant to be driven out of some sheltered cover, and will lie so close as to afford excellent shooting; but, as a rule, in wet and windy weather they are as "wild as hawks." A great disadvantage when shooting in boisterous weather is, that the birds rise behind or at the side without being heard. None but those who have shot with sportsmen that were deaf can have any conception of the value of hearing in partridge-shooting. We have often seen numbers of birds rise close behind and at the side of such a sportsman, but in consequence of his not hearing them they got off scathless.

Partridge-shooting should not be indulged in during snowstorms, because the birds for the first few days are so confused, and eventually become so hungry, that they cast aside all fear, and to shoot them in such circumstances is, to say the least, highly

inconsiderate and undignified. During the severe snowstorm in 1882, when the ground was covered to the depth of nearly two feet, partridges flocked into towns in large numbers, evidently in search of black ground and food. A great many were picked up in the Meadows, and even in the streets, of Edinburgh, while large numbers congregated in the fields around the city in a starving condition. They were also driven into other towns, notably Berwick-on-Tweed. There coveys were seen flying down the principal streets to feed on the "shad" near the old bridge; while in the fields around, sad havoc was made among them by poachers and idle persons. It was observed that several were stunned by flying against the houses, and according to the local newspapers, one person captured twenty-four in one day, and another seventeen. So destitute were the birds of food, that in flying to the coast to feed on black ground from which the tide had receded, they were frequently observed, when the tide was full, to alight on the water, whole coveys being picked up by the crews of fishing-boats.

Partridge-driving, like that of grouse-driving, is now largely indulged in. Indeed in most of the game-preserves in England dogs are never used. The method of driving partridges is very much the same as that of driving grouse, the sportsmen concealing themselves behind hedges, walls, &c., instead of "boxes" or "grouse-forts" erected for the purpose. The numbers killed in Norfolk, Suffolk, Cambridgeshire, and other counties in this manner, are very

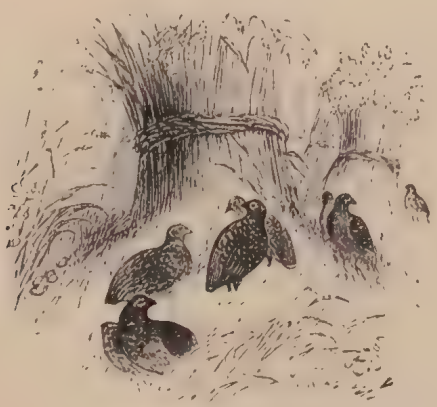
great. It may be remarked, however, that they are exceedingly plentiful,—so much so, that in one day, on his estate in Suffolk, the Maharajah Duleep Singh, to his own gun, killed 390 brace. This bag, however, was not secured by driving. It is advantageous for the sportsman not to stand close to the hedge, but at a little distance from it, the distance varying according to its height. If he stand twenty or thirty yards from the hedge, he is never seen by the birds till they rise to pass over it; and as they are then within shot, it is too late for them to deviate from their line of flight. By standing close to the hedge the sportsman cannot shoot at the birds as they approach; and after they are past, if aided by a high wind, their flight is so rapid that the difficulty of getting a "right and left" is very great. Above everything, care should be taken, when shooting at birds passing, that the aim is taken well in advance, or birds will fly off with broken legs, or otherwise wounded, to pine and die.

In many English counties where driving is extensively practised, there are numbers of French or red-legged partridges, which—although they are not so much prized for the table—afford excellent sport in driving. Their flight is not so rapid as the English partridge, and as they more often fly singly, have less chance of escape.

There is this peculiarity in French partridges, that after being flushed once or twice they can scarcely be made to take wing again, and can readily be captured by men or dogs. When partridge-driving in Norfolk

during the autumn of 1880, we had numbers picked up by the retriever after they had been twice driven. We brought some thus caught to Scotland, and turned them out upon the Inch estate, but they perished in the severe and protracted snowstorm which came on immediately thereafter. That they should have succumbed in the circumstances is not surprising, seeing that in many places our more hardy native partridges were wellnigh exterminated.

While the red-legged or French partridges have been successfully introduced into several parts of the United Kingdom, they have not turned out to be special favourites. In the estimation of most keepers they partake somewhat of the character of a nuisance, as by their continuous running, and persistent refusal to rise, they operate prejudicially upon dogs, more especially when young or partially trained. Under all the circumstances, we question whether any real advantage has been derived from their importation into this country.



Partridges.

Pheasants at Home.

CHAPTER XVI.

COVER-SHOOTING.

Cover-shooting has no great attraction for the sportsman of skill and experience. For him the elements of slaughter and inactivity enter too largely into the noisy exercise to call forth his admiration or yield him hearty enjoyment. During the Christmas season, when large quantities of game are required for friends, or for farmers and others in the neighbourhood, the skilled sportsman may be able to get

up a sufficient amount of enthusiasm to join heartily in securing the bag required. If, however, the party should be organised for the mere purpose of enjoying "a day's sport," it will have for the genuine and well-disciplined sportsman no special attractions. It is otherwise with the young and ardent lover of the gun, who has not realised the enjoyment of hunting wild game in their mountain solitude, or even partridges in the open during the latter autumn months.

One of the features in shooting which contributes largely to its enjoyment, is the consciousness of the sportsman that the game and he are on somewhat equal terms,—that his knowledge of natural history and deadliness of aim are pitted against the cunning and watchful instincts of the object of his pursuit. It is this feeling which makes the true sportsman scorn to shoot a hare while in her seat, or fire into the mass of a covey, by which three or four birds might be bagged at one shot. In cover-shooting, as a rule, all that makes sport a manly and exciting exercise is awanting, or is at least greatly subordinated to the mere idea of the head of game to be killed. It must be admitted it is this idea which oft-times constitutes the prominent motive pervading the entire party, beaters and shooters alike.

In a cover-shooting expedition, more especially where woodcock abound, those who are fortunate enough to be detailed off to watch outside and proceed along with the beaters, may often enjoy real sport; but we cannot so dignify the action of those

who, stationed at the end of strips of plantation, shoot down the hares as they come unsuspectingly "lamping" forward, or who blaze away among the pheasants as, like a flock of barn-yard fowls, they flutter up at the approach of the beaters.

As cover-shooting and *battues* are becoming increasingly popular, and as they are not without their special dangers, our work would be defective in an important particular were we not to supply a few hints and cautions for the guidance of those who engage in them, and more especially for those who direct the arrangements, and are responsible for the order and safety of all concerned. In view of the increasing number of sad and sometimes fatal accidents which occur as regularly as the season comes round, and as almost every one of these accidents is preventible, it does seem surprising that something like a uniform set of rules for the guidance of those engaged in cover-shooting should not ere now have been published. This is all the more necessary, as during the noise and excitement occasioned by dogs and beaters, young and inexperienced sportsmen are apt to lose their heads for the moment, and by shifting their position, or committing other inconsiderate acts, subject both themselves and others to serious peril.

The keeper in charge should give all directions, and it is the duty of every one to see that his orders are rigidly adhered to. Before entering the cover, the guns that are to be stationed in advance and at

the extreme end should be placed, as it often happens that some of the game steal away on the first indication of danger. Once in position, even though game is seen crossing out of range, no one should shift unless he has special orders to that effect. It is not unusual for excitable amateurs, when they see game breaking cover or passing without reach, to keep moving about, whereby they not only destroy their own chances of sport, but disturb the whole arrangements, and at the same time run the risk of being seriously injured by getting into a position which the other guns understand to be clear. It is unnecessary to point out to those accustomed to cover-shooting the folly of this course, as by remaining motionless the game would in due course come within reach of the position allotted them. It cannot be too much insisted on, that each and all of the shooters remain motionless, as on the game approaching what they regard as a point of danger they generally stop to listen, and will detect the most trifling movement in advance. This being done, they will often be found — more especially if the cover has been previously driven that season — to run back among the beaters rather than face the guns.

Accidents ever and again occur where the arrangements have been most complete, through some excited amateur forgetting his instructions, but much oftener through the injudiciousness of gentlemen shifting their position. Unfortunately, illustrations of this truth

have of late years been too numerous. Recently we were associated with a shooting-party in Linlithgowshire, where an accident, which might have proved fatal, occurred from the cause stated. A gentleman, with his keeper, were stationed at a particular spot at the side of a wood in course of being driven. On observing lots of game crossing at some distance, they left their position outside and went into the wood, in order to be within range, as they saw many of the hares passing on their way to the end of the cover. The gentleman, however, did not succeed in getting a shot; and on the beaters advancing, as no one had any warning that he was there, one of the guns which accompanied them fired forward at a hare without observing him. The result was, that the keeper in charge of his second gun was severely struck in the legs and lower part of the body, and his retriever was killed dead at his feet.

Sport greatly depends on the manner in which the woods are driven, and the ability of the beaters. Some think that any person can beat. This is a mistake, as unless they keep in line with the precision of military drill, and have a knowledge of the habits of the game, there is a tendency on the part of both ground and winged game to run backwards, and thereby to defeat the object in view. We have frequently seen inexperienced beaters who, rather than run the risk of having their clothes torn or their hands scratched by thorns or bushes, would go round the outside of them, thereby affording every

facility for the game to get in rear of the entire party, and be lost — unless the precaution has been taken to anticipate such contingencies by one or two guns being placed a considerable distance back. This is a precaution which we would recommend not to be lost sight of—especially when there is a sufficient number of guns engaged. Boys, as a rule, do not make good beaters, as we have often noticed that if three or four of them be in a band of drivers they are apt to crowd together, utterly regardless of the instructions they may have received to keep in line. Boys are also apt to get unnecessarily noisy, which is most objectionable. Nothing is more annoying than to hear beaters shouting and yelling at the highest pitch of their voice; for by such proceedings game is so frightened, that it is just as likely to run backwards as forwards, and is led to break cover in all manner of places not in accordance with the usual custom, and for which the keeper could not possibly have made provision. In addition to the annoyance thus caused to the sportsmen, it is frequently the means of inducing dogs that would otherwise be quiet and steady, to rush in and give chase, thus proving an additional source of irritation and trouble. Another objection to boys is, their often falling behind; and in cover, when the guns keep in line with the beaters, they are exposed to dangers from any one shooting back. Accidents to boys have frequently occurred from this cause.

The value of cover-shooting is greatly enhanced

where an occasional shot at roe may be anticipated. These graceful and timid creatures, in the latter months of the year, are usually to be found in large woods — greatly preferring the banks of mountain streams or rivers, with jagged rocks and thick brushwood, where they are not likely to be disturbed. When left to themselves they appear to have a social instinct — it being not unusual to find three and four together, even in districts where they are somewhat rare. When in the centre of a wood with which they are familiar, they seem to cherish a feeling of security, and may frequently be seen quietly feeding, or lying down, or leisurely strolling about, apparently without other aim than the enjoyment of each other's company. We have known roe to watch the keeper feeding the pheasants with Indian corn in the mornings, and whenever he retired a short distance, would put their feet on the spring-board and eat out of the feeding-boxes. They would also, like sheep, pick up the corn when scattered on the ground.

However approachable roe may be in the absence of gun and dog, it is otherwise when their suspicions are aroused and the intentions of the shooting-party discovered. Should a cover be driven which they are known to frequent, they as a rule break at the highest part; and as the keeper will previously have taken notice of the best "passes," guns should be placed in them, with strict injunctions to keep still, and as well hidden as possible. If a shot at roe is

ROE.

specially wanted, it is desirable not to shoot at other game, as in thick cover roe run about before the beaters, being often reluctant to leave the wood, and should they hear shooting near the "pass" in advance of them, will rather break through among the drivers than face the guns. Many argue that it is necessary to keep to leeward in the "pass"; for the olfactory organs of the roe are so sensitive, it is thought they will not otherwise approach within range. But as a diversity of opinion exists in regard to this, we may state, without wishing to appear dogmatical about it, that we have frequently seen them come within twenty yards of us, even though a good breeze was blowing from us to them. Still it is a wise policy always to prefer "the lee side," where this is practicable.

When the wood is large, we prefer the use of dogs —beagles, or large terriers trained for the purpose. These we have found to be best adapted for making roe quickly break cover. Roe often dodge over their own track several times to puzzle the dogs; but when they discover it is of no avail, they make for the "passes," and are so much taken up with the sounds behind them, that they go on till within easy range, if the shooter be concealed and remain perfectly quiet.

The hare, like the roe, is largely indebted to its sense of hearing and swiftness for its defence against its many enemies. It, however, does not depend on these exclusively, seeing it possesses, besides, an

amount of instinct allotted to few animals, and by the exercise of these it often baffles its pursuers.

Before settling for the day in the open field, the hare, as a general rule, doubles back upon her own track for a distance of from thirty to sixty yards, and then, immediately before settling down, makes a spring directly to the right or to the left to a distance of six or nine feet. Those who may have the curiosity to track a hare among snow will discover how invariably this practice is adopted, and how well adapted it is to aid "puss" in effecting her escape. She will very generally be found — unless when rising wild — to allow the person or dog to pass on two or three yards beyond the point at which she has doubled, and will often slip off immediately in their rear unperceived, by this means gaining a considerable start, and not unfrequently saving her life.

During the heavy snowstorm in December 1882, we had an illustration of the peculiarity in question. A deal of destruction was done by hares in an orchard of young fruit-trees on the Craigmillar estate, by barking them, and we sat up for several nights to try and shoot the depredators. In this we were baffled, as they always managed to escape. But catching view of one on a morning at daybreak, we took up its track, determined to follow it to the end. This proved anything but an easy task, as the depth of snow rendered walking both slow and difficult. After following the track for about three hours, fre-

quently seeing the depredator in the distance, we came within range of it squatted at the root of a tree, and there secured it. Four times it had turned and run back exactly on its own track for a distance of from one to two hundred yards, and then making a bound of eight or ten feet off to the side, had started in a new direction. This in all probability would have thrown dogs off the scent; but the depth of snow made the tracks easy to be discerned, and gave us a greater advantage in following them. It was not without a feeling of reluctance that we killed this animal, which had so cleverly pitted its sagacity and cunning against us, feeling that we had taken a shabby advantage; but as several scores of fruit-trees had been barked and destroyed, we could not in the circumstances spare its life.

It is a most interesting fact in natural history that young hares a few weeks old often display the power of instinct in this particular. We have more than once satisfactorily ascertained this by following the footprints of small leverets after a snow-shower in the month of April.

When hares are being driven, there is no scope for the exercise of the instinct to which we have referred, and they can only "lamp" slowly forward before the beaters, if unsuspicious of any danger ahead. Should they hear a shot in advance, however, or see the sportsman, they will try to break at the side, and if foiled in that, will not unfrequently break back through the line of beaters.

Rabbits also greatly enhance a day's cover-shooting when they are fairly numerous. It is customary in some places for the keepers to stop up the burrows, in order that outlying rabbits may be driven to the guns. This method adds materially to the bag, and more especially if ferrets have been used some days previously, and pieces of white paper stuck between two split sticks in front of the holes. The object of this is obvious, as rabbits very naturally object to go into a hole with such a suspicious-looking thing as a piece of white paper stuck between two sticks or fluttering in the breeze. This method is now very generally in use, and practised with much success. Indeed a day's shooting in open cover, where rabbits are numerous, and where they have been ferreted and the paper placed as described, partakes very much of the character of a day's pheasant-shooting in one of the best Norfolk preserves. Having frequently been engaged rabbit-shooting in such places, we have found it no unusual thing for considerably over a thousand to be brought to book. Having been hunted out of the holes with ferrets for a week previously, and the burrows stopped up, they utilised every tuft of grass or bit of cover for a hiding-place, not unfrequently squatting on the bare ground, and of course great numbers came to grief.

Their habits resemble very much those of the hare, only they will more frequently pass the guns at full speed. In such circumstances the sportsman must, as

a matter of course, aim well forward, otherwise they will frequently be so little injured by the shot as to be able to run some distance, and thus occupy time —specially valuable in cover-shooting — in picking them up.

Cover-shooting in the Highlands of Scotland, where pheasants are seldom numerous, has a special attraction, capercailzie being frequently met with. This bird was some years ago confined almost exclusively to the Breadalbane estates, but it is now to be found scattered throughout Perthshire, and stray birds are to be met with in all the surrounding counties. Notwithstanding the heavy clumsy appearance of this bird, it is surprisingly swift in flight, and much more capable of taking care of itself than most people imagine. These birds should never be shot at except at a short distance, or when the cartridge is charged with heavy shot. From their thick strong coating of feathers, and large bones, they rarely drop unless when fired at within a reasonable distance. Hence it is no unusual thing for the keeper, on going his rounds a few weeks after the woods have been driven, to find the wasted remains of these birds at a considerable distance from the spot where they had been fired at.

The capercailzie makes its nest generally at the root of a huge tree, and it is seldom, if ever, to be found in the open.

In general bags at cover-shooting, the pheasant

bulks most prominently, and though falling an easy prey to the experienced sportsman in the open, they require sharp practice among trees. At the same time, pheasant-shooting requires a certain amount of practice, from the circumstance of their frequently rising almost straight up, when they often escape unscathed, or injured only in the lower extremities, in consequence of the aim having been too low. Notwithstanding the shortness of their wings, they fly with great velocity when once in the air, and afford excellent shooting as they pass overhead. Indeed, in some parts of England it is a rule that the guns placed in line with the beaters shall shoot ground game only, in order that those stationed at the end of the wood may get "rocketing" shots at the pheasants. When a cover is dense, pheasants, as a rule, will, instead of rising, run to the end till within a few yards of the guns placed there, and will rise in large numbers on the approach of the beaters. Provision must be made in anticipation of this by several guns being placed forward, otherwise a large number will necessarily escape. The number killed in a day at some of the *battues* in England is almost incredible; but such wholesale slaughter does not comport with our opinion as to what really constitutes sport. It is the fashion to abuse *battues*, and denounce them as unnecessary slaughter, while at the same time immense sums of money are spent in preparing for them, and sportsmen are ever ready to accept an invitation from those who

can show a thousand pheasants in a day. To our mind the main element of sport is awanting in such circumstances—viz., wildness. At first the pheasants' eggs are bought or gathered in, hatched under hens, and the chicks are reared and hand-fed. The shooting of one pheasant so much resembles the shooting of another, that it becomes monotonous for a gentleman to stand at the end of a strip of plantation shooting down birds which have been to a large extent reared by the hands of his keeper, pretty much as domestic fowls are reared by the henwife.

There are so many books written upon the rearing of pheasants for the cover, and they are so widely circulated by the purveyors of food for the pheasantry, that very few hints need be offered by us. The first consideration is to get a field sheltered from wind as much as possible, and if at all attainable, a fresh one every year, as it is a safeguard against epidemics. Early rising and cleanliness are indispensable, their food being mixed in the morning before feeding, for if kept overnight in hot weather, it is apt to sour—in which state, it is needless to say, it engenders disease. The dishes in which the food is mixed ought to be kept scrupulously clean, or disastrous results will ensue. Every manufacturer very naturally recommends his own food-supplies as the best in the market, this recommendation being of course supported by numerous testimonials; but we are of opinion that the successful rearing of pheasants de-

pends more in attending to the rules indicated, and warm sunny weather, than on the food of any particular purveyor.

Notwithstanding the domesticated character of which the pheasant so largely partakes, it not unfrequently strays long distances during the spring months, and is sometimes found nesting in the most unlikely places. We have more than once found a pheasant hen sitting on eggs among the heather at such places as Stronphadrick and Dalnaspidal in Perthshire, both places being a distance of over a dozen miles from the Blair Atholl woods, from where it is presumed the pheasants must have strayed.

Reverting again to cover-shooting, should a cry of woodcock be heard, how eager every one is to catch a sight of the migratory stranger! and he who is lucky enough to get a shot and secure it as it makes its rapid gyrations among the trees, is regarded as the hero of the hour. Why this eagerness to shoot a bird which for actual value is by most people not to be compared with a pheasant? The answer is to be found in the circumstance that every feature of a domestic kind is absent in the woodcock, while they are all notoriously present in the pheasant.

We have termed the woodcock a "migratory stranger." At the same time, a number breed in this country, and notably in Argyleshire and Perthshire. The woodcock is the first game-bird in this country to lay its eggs. On the 20th of March 1884, a woodcock was found hatching four eggs on Glentarf moor,

near Comrie, and young birds were found close by able to fly about a month thereafter. Like the pheasant, little pains are taken in the construction of its nest. It consists only of bits of fern mixed with leaves or moss, in which generally four eggs are deposited. When the young are hatched, they are at dusk carried by the parent bird to the springs or marshes. In like manner, when able to fly, they follow the parent to the feeding-ground. A few woodcocks arrive in this country in October, but the larger flights arrive in November and December, according to the rigour of the weather in the country which they leave, the direction of the wind which they require to waft them across, and the age of the moon, they being taught by nature to fly when it is nearly full. On arrival they are much fatigued, and rest for a few days near the coast before going inland.

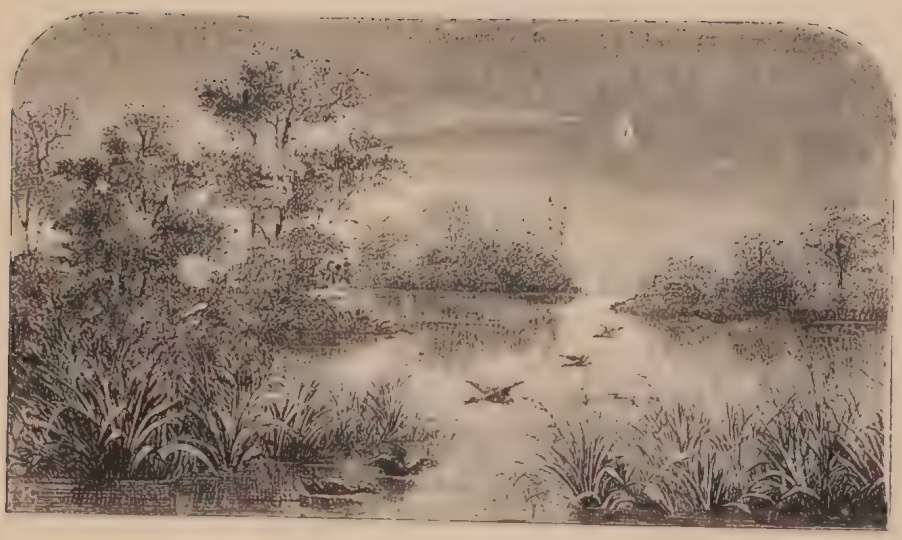
Large numbers alight on the Isle of May, at the mouth of the Firth of Forth, as if too fatigued to proceed farther.

The number of these birds which breed in this country is on the increase.

It is a great mistake to disturb cover too early in the season. This is a practice, we are sorry to say, too often indulged in by impatient amateurs. We have known partridge-shooting neglected till too late in the season for a bag to be obtained, in order that the covers might be disturbed and a bag of hares and pheasants secured without the inconvenience of travel. It is not surprising that keepers who know

their business should become irritated and fretful in such circumstances. Surely it is the duty, as it is the interest, of all proprietors and genuine sportsmen, to support the keepers in discouraging the practice to which we have here directed attention.

Cover-shooting, to be really enjoyed, should be reserved till near the Christmas season, when the frost has done its work by stripping the leaves from the trees, and when the birds are strong on the wing, and the hares and rabbits in excellent condition.



Ducks flying in to feed.

CHAPTER XVII.

MISCELLANEOUS SHOOTING.

There are a diversity of game which go to make up a mixed bag; and this, when the season is well advanced, presents quite a picture to the eye of the sportsman and naturalist. A few pages devoted to this class seems a necessary sequel to the methodical treatment of sport in the Highlands and Lowlands of Scotland. Prominent among those demanding attention is the web-footed species, or that class of waterfowl which come within the sweep of the sportsman's consideration.

Ducks, when young—or "flappers," as they are

termed—attract the attention of the sportsman early in August. By this time they have generally found their way from the places where they have been hatched into rivers or lakes, or, when near the coast, into the open sea. From their reluctance to fly, and their slow awkward movements on the wing, they afford at best but poor sport. It is otherwise when they have reached full maturity, and are found scattered about during the winter months among the bogs, and mountain-rivulets, and tarns, to which they invariably resort. A duck and drake rising in such circumstances, at a distance of from twenty to twenty-five yards, are quite a luxury to one who can use his gun. The first barrel is generally levelled at the drake, while the second is reserved for the less attractive duck. It is surprising how often these birds are missed even by those who are otherwise fair shots. This arises from their being fired at too soon, the shot generally passing underneath them. As ducks frequently rise straight up, it is well, when within distance, to allow them to have reached a given altitude before being shot at. By attention to this rule, few ducks need escape, even from an indifferent shot.

Duck-shooting is so varied, differing greatly in different localities, that it is impossible to submit any uniform set of rules for those engaged in its prosecution.

Punt-shooting on the coast, or on lakes, we care little for, as firing a big charge out of a punt-gun into a flock of ducks, and wounding great numbers,

is at variance with our opinion as to what constitutes sport. Shooting at the seaside, on lakes, or in large rivers, with an ordinary fowling-piece, is more attractive, considerable tact being required in order to stalk within range. If there be cover, or if the ground be suitable, ducks are as easily stalked as grouse or rabbits; but on the sea-beach, or level shore of a lake or large river, no little strategy is necessary.

The services of a well-trained retriever at this kind of sport are invaluable; but if not thoroughly under control, and taught to crawl behind its master, or to keep back by a beckon of the hand when great caution is necessary, many chances will be lost by its being observed.

Resting all day in the sea or in large lakes, ducks at dusk repair inland to feed on stubbles, potato-fields, small lochs, brooks, and marshes. If attention be paid to the stubble where they are in the habit of feeding, they, as a rule, will be found at dusk to fly in one direction from the sea or other resting-place. If a hedge or wall be at the side of the field, where the sportsman can conceal himself, he will get shots at them as they fly overhead. The same remark applies to their approaching towards potato-fields and other feeding-places. Barley-fields in late districts, even before cut, have very special attractions for ducks. Having once acquired the habit of visiting the uncut barley-fields, where immediately on alighting they are concealed from view, they will persist in returning in the face of circumstances the

most adverse. Many years ago, when returning from the moor about sunset, we observed a brood of nine ducks settle in a small barley-field near St Mary's Loch. Passing down the side of the field, the ducks rose, when we succeeded in bagging a pair, fortunately including the old bird. A few nights thereafter the remaining seven rose in similar circumstances, when we succeeded in bagging a single bird. After this we expected that they would continue to return. In this we were not disappointed, as ever and again we found them among the grain, until we ultimately succeeded in bagging the last of them.

Ducks breed in the hills among heather, in grass, in corn-fields, in scrubby whins, or indeed almost anywhere. We have known one for several consecutive seasons nest in the cleft of a tree a considerable distance from the ground. In accordance with natural instinct, they almost invariably make their nest at no great distance from some ditch or water-course, in order that when the young are hatched they may easily reach the water. Notwithstanding their wildness at other times, ducks, when hatching, sit so close as almost to let any one trample on them. We have seen one sit so close on her eggs in a field of grass at Craigmillar, that she was killed by the hay-mowing machine. When they leave the nest, they, like partridges, carefully conceal their eggs.

Though ducks may breed on certain ground, it by

no means follows that sport will there be had at them, as before the period provided by the Legislature for their protection has terminated, they, as already observed, will very frequently have left the breeding-ground and betaken themselves to the sea, or to lochs of large dimensions, where they can rest at a distance from land, less likely to be disturbed. In hard weather, when all stagnant water is frozen, they are necessarily compelled to resort to running brooks. In such circumstances, the sportsman should walk ten or fifteen yards from the side of the brook, and an assistant close by it a considerable distance in the rear, the distance depending on the windings of the stream. By this method the ducks will generally rise within range; whereas, if the sportsman keep by the brook-side, he will rarely get near them. Without an assistant, there is but one course to pursue—that is, by keeping out from the stream and looking over the bank occasionally. In this manner, however, we have frequently been baffled, sometimes by their rising at a long distance, and at other times, if among weeds, squatting till we were retiring, when they would rise out of shot in our rear. When the ground is covered with snow, they are easily shot in the moonlight, especially if they are between the sportsman and the moon. This, however, they generally contrive to avoid, and more especially when they are startled from a brook. We have occasionally been interested in observing them flying down the shade of the bank, conscious that they are less liable

to be seen than flying out on the snow in the moonlight. We have often been deprived of a shot in this manner; but if two sportsmen look over into the brook, say fifty yards apart, at the same time, any ducks that are between them have no alternative but to fly out.

Ducks may also be killed by the sportsman concealing himself at the side of small lochs as they come flying in at night. They are easily shot when flying between the shooter and the sky. Sportsmen who indulge in duck-shooting at night in such circumstances, should therefore keep in mind to place themselves in a position so as to have the moon as fairly opposite as possible.

There are few things more interesting than to sit concealed at the side of a small lake on a clear frosty night and listen to the varied calls of numerous aquatic birds. Even at Duddingston Loch, in close proximity to the city of Edinburgh, we have frequently indulged in this pleasure. Concealed among the tall reeds at the west end of the loch, we have listened to the loud and almost constant quack of the mallard, the low discordant note of the teal, and the whistling of the widgeon, while the swans, the coots, the water-hens, and other birds, joined in the general chorus. Were it not that we were reminded by the tramway-car driver's whistle and the hum of the busy city, we might have fancied ourselves by the side of a tarn in a mountain solitude far from the haunts of man.

Wild Geese are so extremely shy, and so seldom do they alight in our Scottish counties, that unless it may be in the far north, they are rarely met with by the sportsman. There are, however, occasions, more especially when crossing the island in the spring, when they will alight on some extensive plain or bog land, or on a newly sown corn-field. They may also be occasionally met with in extensive unfrozen marshes abounding with "well-heads" during exceptionally severe winters. Unless in dense mist, or in a high wind, or at night, their flight is so high as to be beyond the reach of an ordinary fowling-piece, or even duck-gun.

Few birds are more wary than wild geese. They never fail to circle several times before settling in a field, and rarely alight near a hedge or any cover which may conceal a foe. Wild-goose shooting is therefore almost confined to driving, or awaiting in ambush for them coming to feed or to water. Stalking them with a horse is frequently tried, but in so far as our experience goes, never with success.

Our first shot on the wing was at one of those birds. Many years ago a "string" of about a hundred flew over the keeper's house at Ladykirk, in Berwickshire, and after circling several times round, alighted on a large field of new-sown oats on the farm of Mountfair. The keepers were all from home, and being too young to be trusted with a gun, we had great difficulty in persuading the keeper's wife to allow us to take one. She, however, having seen the geese alight, and sym-

pathising with our sporting instinct, ultimately consented. In a state of intense excitement we took a gun from the press, seized a powder-flask and bag containing No. 5 shot, and started off towards the field in question. By crawling up a ditch we approached the field, and peering through the hedge, observed the geese about the centre feeding on the oats. Six of them stood with heads erect acting the part of sentinels, and after watching for a time, others took their places, and they commenced to feed. As they were not within two hundred yards of the hedge, it was impossible to get a shot at them; so retracing our steps to where a man was working on the road, we requested him to startle them, after allowing sufficient time for us to get round to the other side of the field. By crawling for a considerable distance, we succeeded in getting unobserved in a line with the geese and the point where the driver was to show himself. Having a few minutes to spare, we watched their movements with great interest. As before observed, sentinels stood watching for a time, others ever and again taking their places. Almost forgetting our purpose, we heard a peculiar "cackle" from one of the sentinels, and in an instant every head was up watching the direction indicated by the one that gave the alarm. For a minute they all stood motionless, when, on the driver appearing full in sight, they rose in a confused mass and flew towards us. Notwithstanding the number of such large birds rising as described at a distance of about three hundred yards,

it was most interesting to observe the rapidity with which they got into line, a position in which they almost invariably fly. Passing over our head, we selected one for our aim and fired. The small-shot rattled on its feathers like a shower of hail, while it at once left the rest, and wheeling round, flew back in the opposite direction. Concluding that it was wounded, we fired the second barrel with the view of despatching it. The second shot, however, took no effect; but the goose kept coming down, till it finally settled near to where the flock had been feeding. Loading the gun, we proceeded to secure it. This we had no difficulty in doing, it being unable to rise, a pellet having penetrated the joint of one of its wings.

We have known cases where geese, having found extensive corn-fields newly sown in some remote and thinly populated district of country, remained for several days feeding on the new-sown ground, and retired during the night to some lake or pond among mountains or moorland. In such circumstances they are occasionally shot by keepers concealing themselves among the heather by the side of some frequented lake and waiting their arrival in the dusk. We were once invited to take part in one of these nocturnal exploits, and to visit a small mountain-lake on the extreme west shoulder of the Pentland range. Forming one of a party of three, we arrived at our destination about sunset in the month of April. From the amount of droppings and feathers on the sides of the

lake, we were satisfied that the geese had been there; but that they would so far accommodate us by returning on the night in question seemed problematical. Having each selected a spot within a few yards of the lake, we concealed ourselves as we best could among the rough heather. Exposed to a cold biting east wind, we lay silent and motionless for several hours after the last rays of the sun had disappeared, and when the whole landscape was shrouded in darkness. Having given up all hope of the geese, and wondering how we were to find our way home through seven or eight miles of a trackless waste, there fell upon our ears a faint "cackle-cackle," which indicated the approach of the objects of our anxiety. Louder and nearer the welcome music came, until a perfect babel was heard overhead; and after circling in the air above the lake, a large flock of geese splashed down among the water. While the noise was deafening, nothing was to be seen amid the darkness which prevailed. One of our party in the excitement directed his gun towards the noise, when it missed fire. We, with the friend next us, fired each a shot in the direction of the birds, but with what result remains to this hour a mystery. The geese rose, and a few of those right above the water being visible, we fired the remaining two shots—the guns being muzzle-loaders—when a sound as if two sheep had been thrown into the lake gave unmistakable evidence that at least one pair had perished in the assault. After waiting for some time at the west end of the

pond, we were able to pick up two splendid geese, which were drifted thither by the wind. On searching in vain amid the darkness to see whether any had been killed by the first shots, we set off for home, which we reached about two o'clock in the morning, after a journey among peat-hags and morasses, not altogether unlike a party who had returned from a wild-goose chase. Our reminiscences associated with this episode in our experiences of geese-shooting will not readily be forgot.

SNIPE, to sportsmen who can shoot, afford excellent amusement. In consequence of the progress of agriculture, the large quantity of moorland that has been reclaimed, and the amount of draining that has taken place in many districts, snipe are not nearly so plentiful as they were fifty years ago. On the moors, in wet seasons especially, if grouse are scarce, the sport is greatly enhanced by the occasional "squeak" of the snipe as it rises, and by the irregular twistings of its flight which often baffle the very best of shots. As numbers of these birds breed in marshy ground adjoining moorland, they in the month of August are scattered over the moors; and as the young birds sit close, they are often bagged by the grouse-shooter. The nest almost invariably contains four eggs—which are very large for the size of the bird—and is generally to be found among rushes, rough grass, and occasionally heather. Like partridges, young snipe run as soon as hatched.

It is surprising how steady dogs point at snipe

when grouse are scarce; but when they are plentiful, such small game seems beneath their notice, as, though they may point for an instant, they very often put them up and gallop on in search of grouse. In dry seasons snipe are not often met with on the moors, unless on low-lying and damp places; but should a marshy bog be in the vicinity, it is there they will be found to congregate, and where the sportsman, on a wet day—when he does not want to disturb the grouse—may enjoy an amount of sport. He must not, however, be afraid of wet feet, or deterred from hunting among miry bogs or swamps.

At Duddingston Loch, near Edinburgh, snipe are to be found in large numbers, a bag of a dozen brace being occasionally obtained. But of late years they have got much wilder, and rise in flocks, so that the difficulty in now securing a good bag has become much greater than formerly. The nature of the ground necessitates wading of a difficult and sometimes dangerous character. The roots of the weeds and sedges are so matted together by the growth of centuries, that a person can walk on them; but as they gradually sink beneath his weight, he must keep moving, and even then he often sinks to the knees. A gentleman, in the autumn of 1879, broke through this floating island of weeds, but, with gun in hand, he spread out his arms, which prevented him from sinking altogether. We hurried to the rescue, and with some difficulty pulled him out of his unenviable position.

Like most other birds, snipe, after being fired at a few times, get very shy, and rise out of shot. When the nature of the ground admits of it, and the birds are wild, they may be driven. Where this can be done successfully, they afford pleasant shooting while flying overhead. After beating all the reedy haunts referred to, we have frequently killed numbers of these swift-winged birds by concealing ourselves amid the profusion of cover, as snipe are not long in returning, and are easily killed flying in against the wind.

During the long-continued and severe winter of 1880-81, for many weeks Duddingston Loch was frozen over; but a small portion among the weeds was kept open by the coots and numerous other aquatic birds constantly feeding there night and day. While looking for snipe, we incidentally fell in with the rendezvous referred to, but before getting near it a cloud of snipe rose and flew away. We went forward in the hope that a solitary one might have remained. Such, however, was not the case; and while standing we heard a "whish," and in an instant the large flock came sweeping in, intending no doubt to alight again. Firing both barrels in their midst, we knocked down a large number, picking up no fewer than fourteen, while, owing to the rankness of the weeds, several wounded ones in all likelihood escaped our notice. When all lochs and stagnant water are frozen, snipe, like wild duck, are compelled by necessity to repair to springs and running streams.

Though very nocturnal in their habits, they are often, in such weather as we have described, to be found feeding during the day.

Within the municipal boundaries of Edinburgh we have, in hard weather, killed large numbers of snipe in the Powburn. This stream, being the receptacle of all the sewage of the south side of the town, is consequently more difficult to freeze than unpolluted brooks. Snipe also prefer to bore in muddy places, so that the burn referred to is a congenial resort. After shooting at them a few times they, as already mentioned, become wild, and rise out of shot. They are, however, easily got at by walking a dozen or fifteen yards from the brook-side, taking care to keep out of sight, and to have a man walking close by the burn fifty yards in the rear. The result is, they rise wild from him, but generally within reach of the gun.

Snipe fly a long distance at night to feed. In an irrigated meadow we have known hundreds to be feeding, coming in at dusk, and going off with the first streak of daylight.

The jack-snipe, though only about half the size, resembles very closely the larger species. It is by no means so numerous in this country; at least, in so far as our experience goes, it is much more rare in the moors and marshes of Scotland. It is much easier shot than the common snipe, and if missed, it not unfrequently drops down again within a hundred yards. If flushed once or twice, however care-

fully marked, they are not easily got up again without a dog.

Golden Plover are not always classified with game, but there are some who place them in that category. The golden plover is met with both in the Highlands and Lowlands of Scotland. Breeding in high altitudes, the old birds may be seen early in the shooting season flying from hillock to hillock almost within shot of the sportsman, with the view of decoying the intruder away from its young. During the spring and summer months the plover, with its sharp but lonely cry, will often be found amid the barren moorland wastes which frequently constitute their breeding-haunts. On the table-lands on the top of some of the higher ridges of the Grampians, their predilection for such resorts is conspicuous, while the mournful note of the bird seems to add to the desolation. Numbers are often killed by the sportsman when ptarmigan-shooting, and from their habit of often flying in large flocks, several are frequently killed at one shot. On the first indications of approaching winter they repair to the low country, where they may be seen in large flocks along with lapwings, in turnip, grass, and other fields, but greatly preferring those which have been recently ploughed and harrowed, as they more readily secure the insects on which they subsist. They have a preference for fields which are damp, and where the grass is short and thin, and become attached to certain localities. We have in a high wind killed

large numbers by driving them from one field to another. This mode, however, is not always successful, as golden plover—especially when among lapwings—frequently circle high in the air, and keep out of shot, unless when about to alight. In hard frost or snowstorms they repair to the coast, feeding upon the insects left by the receding tide. The plover is one of the most harmless of birds, and is a general favourite among the Scottish peasantry.

Lapwings attract little interest among sportsmen, and while they may be shot in large numbers, are practically of no value. It is otherwise with their eggs, which are gathered in incredible numbers, and sold in our large towns as high as four shillings a dozen.

The Dotterel, the smallest of the plover species, is, we are afraid, gradually becoming more scarce. Their feathers are highly valued by anglers for fly-dressing, and their eggs being difficult to find, are a great prize to the collector. A considerable number breed at Dalnaspidal in Perthshire, where we have seen a flock of several hundreds about the time they were preparing to take their departure.

The Curlew, better known among the Scottish peasantry as the "whaup," resembles the golden plover in many of its habits. Few birds are more wary; and from the circumstance of their eyes being near the top of their head, and their legs and neck long, they are most difficult of approach. Even

when hatching they are always on the outlook, and will—long before any one gets near—leave the nest and run in a crouching manner for a considerable distance before they take wing. As a rule they make their nests in some remote place far from human haunts. We have found them on the summit of high mountains, and in places where the approach of the intruder was certain to be discovered. They have generally from three to four eggs, which are unusually large for the size of the bird.

The CORNCRAKE, a bird "seldom seen but often heard," is frequently met with when partridge-shooting, especially among second-crop grass. By this time most of them have left, and we are of opinion that those found in September or October are late young birds, not sufficiently strong on the wing to migrate with the main flight. They arrive in this country in the month of April in large numbers, every grass field resounding with their "crake-crake." Notwithstanding their numbers, and their bringing up eight, ten, and even a dozen young, it is a singular fact that very little is known of their habits. Assuming that each pair rears eight chicks, and considering that the number shot is fractional, a large quantity must leave the country compared with what arrives. By September most of them are gone, migrating to the south of Europe and the north of Africa. It is confidently asserted by some writers that they hibernate in holes in "old turf-dikes."

This assertion we regard as inadmissible. Having had large experience in ferreting and digging out rabbits in "old turf-dikes" and elsewhere in many parts of the country where corncrakes were very plentiful during the summer, in no case did we ever find one, neither have we heard from a reliable source that one has been found. It is strange, however, that birds which seem hardly able to fly a few hundred yards should cross the sea; still, true it is that they do cross, instances having been recorded of their alighting on the deck of a vessel two hundred miles from land.[1]

On arrival they are usually in excellent condition. We have killed large numbers in the grass fields by using a young wild pointer or setter with a long trash-cord. Keeping hold of the end of the rope, when the dog gets the full length and turns round, it is dragged over the grass, which generally causes them to take wing. The Wild Birds Protection Act has made their shooting in the spring illegal; so that, with the exception of the few late birds referred to, they come and go without molestation. This is almost to be regretted, as there is no finer bird for the table than the corncrake. It, however, destroys nothing, living chiefly on caterpillars, meadow-slugs, and grass seeds.

The corncrake displays great instinct and forethought in the hatching and rearing of its young. In

[1] Scotsman, September 17, 1880.

the summer of 1883, a nest was mown over in an irrigated meadow on the Craigmillar estate. We were somewhat interested to see it on a spot where the grass, within a radius of a few yards, was shorter than over the field generally, and not in accordance with the bird's usual habit of nesting where the grass was most rank. A few minutes sufficed to explain what to us at first seemed a mystery. We observed that when the ground was covered by irrigation, it did not overflow the radius round the nest referred to; hence the grass was less luxuriant than where it was frequently covered with rich sewage. Had the nest been on any other part of the meadow, the eggs would have been soaked every time the irrigation was turned on, and, as a matter of course, would not have hatched. The mower lifted the eggs with the intention of taking them home. In a few minutes the corncrake made her appearance on the newly mown ground; and our attention being called to the circumstance, we had the eggs replaced in the nest, and, going a short distance off, watched with interest the result. In less than a minute she again appeared, walked straight up to the nest, and sat down on the eggs. Notwithstanding that she was quite exposed, she sat for four days, allowing the mower to cut and fill his cart within a short distance every day. On visiting her the fifth day we found the little chicks, black as coots, newly hatched, the mother-bird running off as we approached. During the time we

were examining the young, she walked about quite bold within six or eight yards "chirp-chirping," evidently calling to the young, which were squatting close in the nest. On visiting the place a few hours after, she had them all safe among the long grass.

In the spring of 1881, crops were very late in consequence of the long continuance and severity of the winter, while the corncrakes arrived in this country before the grass was of sufficient length to cover them. This circumstance gave us an opportunity of observing what often in our boyhood seemed unexplainable. It frequently happens that the "crake-crake" of the bird seems as if one of the "crakes" was much farther away than the other, thus indicating that the bird was endowed with the powers of ventriloquism. In the case referred to we heard one calling loudly in a grass field, and stealthily got up on a fence behind a tree, past the side of which we distinctly saw the bird. It was moving its head from side to side as it called the "crake," so that while its head was toward us, it naturally seemed nearer than when its head was in the opposite direction.

Wood-pigeons.—These birds are more prolific than many people imagine, breeding, as a rule, a good many times during the same season. Of late they have been subjected to much persecution by the farmers, in consequence of the destruction they do

to crops. After the season for killing game has terminated, excellent sport can sometimes be had shooting wood-pigeons. There are few birds more wary and difficult to get near, and yet they very frequently come close to the habitation of man to nest. Large numbers can be shot in woods as they fly in to roost, and more especially if there is a high wind, as they invariably fly in against it, and are thus easily killed if the shooter keeps himself out of sight. It is remarkable how indifferent they are to the report of a gun while feeding in the fields, if the party using it is thoroughly concealed. When shooting at them settling beside a decoy, if not struck, we have frequently seen them fly round a few hundred yards, and settle down again almost on the identical spot they were shot at. Where they have acquired the habit of feeding in a field, if a few stuffed ones are stuck in the ground as decoys, directly any fly over and perceive them, they are almost certain to circle round and settle beside them. We have killed large numbers in this manner even without the use of stuffed ones, by simply propping up the heads of a few dead ones with pieces of sticks, and making them as lifelike as possible. We never went out of the ambush to pick them up as they were shot; and though we have had as many as thirty and forty dead ones strewn around, still it did not in the least deter others from alighting.

Notwithstanding its shyness, the wood-pigeon, as

already observed, very frequently comes close to the haunts of man to nest. At Ladykirk, in a lime-tree within a few yards of the kennel-door, a pair of wood-pigeons had their nest for several consecutive seasons. Though the nest was within twelve feet from the ground, and part of the kennel immediately beneath it, with men and dogs almost constantly about, yet they flew to and fro without dread of danger. Towards the end of September, when a pair of young ones nearly fledged were in the nest, a violent gale, which almost stripped the tree of leaves, was encountered. On hearing the wind when we rose in the morning, we naturally concluded that the young birds would be blown out of the tree. In this, however, we were mistaken, and were interested in observing the precaution taken by the parent birds to ensure their safety. During the entire day, while the gale lasted, one of them sat on the leeward side of the nest, and with its breast kept them in their place, while the other faithfully discharged its duty in providing them with food.

We have witnessed other evidence of the affection they display towards their young. Some mischievous boys who were in the habit of robbing the nests of wood-pigeons, and tying the young birds to a branch at the side of the nest, in order that the parent birds might feed them till they were more fully fledged, had failed to return for one of these young birds, which had thereby been doomed to spend several months as

WOOD-PIGEONS AND NEST.

a bound captive. While cover-shooting at Christmas, we came upon it thus secured, and found it in as good condition as if it had been at liberty.

We have frequently transferred the eggs of the wood-pigeon to the nest of a tame one, and *vice versâ*. Though wood-pigeons thus reared in a house may remain tame for a time, they eventually become wild, and almost invariably take to the woods. They may in rare cases remain over the winter, but we never knew of one that did not betake itself to the woods and mingle with those of its own species on the approach of spring, when they pair off in the prospect of the nesting season.

In 1883, we had two tame pigeons' eggs put in a wood-pigeon's nest in a large lime-tree, in close proximity to the Inch House, near Edinburgh. The young birds were hatched and reared, and for a week after they were able to leave the nest sat mostly on the roof of the house. It is worthy of note that as the wood-pigeons returned from the fields with food for the young birds, on no occasion did they alight on the house-top, where the young birds sat full in view. They, however, after flying closely past the young pigeons, flew into the tree where they had been hatched, and were immediately followed by the young birds. This continued till they were sufficiently able to provide for themselves, when, instead of following the old birds to the woods, they strangely preferred the company of domestic pigeons, and, bidding fare-

well to the lime-tree with its luxuriant foliage, took up their quarters in a dove-cot close by.

In no case have we ever found those experiments in natural history of the character here referred to succeed. So long as external circumstances constrain wild animals to adapt themselves to their somewhat anomalous position they will submit to it, but no sooner do they become able to provide for themselves than nature will assert itself and refuse to be governed by artificial expedients.

A few years ago, in a friend's house in Edinburgh, a pair of turtle-doves had become the attached pets of a schoolgirl. For two consecutive seasons they industriously built a nest in a corner of their cage with small twigs and pieces of cut string, which had been carefully prepared and introduced into the cage. Each season the female on several occasions laid two eggs, and sat upon them until they became addled, when they were ejected from the nest. In every case disappointment was the result; and on our attention having been called to the circumstance, we one evening dropped the egg of a tame pigeon into the nest, taking care to remove one of those in the nest to give place to the one substituted. Shortly thereafter a bird was hatched, and was successfully reared. As soon, however, as it was able to feed itself, it became a perfect tyrant, and had it not been removed from the cage, would have killed the gentle doves from which it had received such kindness.

In the following year facilities were again presented to the turtle-doves for building another nest, of which they readily took advantage. Again several eggs were laid and sat upon, with the same fruitless result. On this occasion another experiment was tried, by removing one of the eggs and substituting that of a wood-pigeon. In due course a bird was hatched, of which the turtle-doves seemed specially fond. After being fed for a couple of weeks, it assumed dimensions out of all proportion to its foster-parents. It seemed to be a perfect glutton, and insisted upon being continuously fed. When nearly a month old, and well fledged, it one day, while being fed, thrust its coarse bill down the throat of the delicate female turtle-dove, and thus choked it in the process. As may be anticipated, the girl, who had become much attached to the doves, was sadly grieved by this incident. No sooner had the dead bird been removed from the cage than the ungrateful wood-pigeon insisted upon being fed by the male. For two days it was regularly fed and cared for by the remaining dove; but on the third day, it, like its mate, fell a prey to the rapacity of the young wood-pigeon, which was speedily destroyed, as the penalty of its greedy propensities. No act, however, could restore to life those gentle creatures that had suffered from misguided affection in the course of a most unsatisfactory, and, we confess, an inconsiderate experiment. Neither, as may well be supposed, could

anything be said or done to modify the vexation of their youthful and attached owner.

From this instructive incident we learn the folly of practising experiments where the natural instincts of the creatures involved and the law of adaptation are not fully considered.

The Dotterel.

Badger, Polecat, and Weasel.

CHAPTER XVIII.

GROUND VERMIN.

The acquirement of permanent good sport involves care, labour, and expense.

The first essential condition is a landed estate possessing features favourable to game. In some cases these are amply provided by nature; and when this is not so, they may frequently be supplied by artificial means. By judiciously arranged plantations, the cul-

tivation of broom, whins, &c., very much can be done towards the rearing and preserving of game. But even after all has been done to encourage game to settle and breed in any given locality, the result will prove disappointing if a sharp eye is not kept on the destruction of vermin. As soon as the game begin to increase, both ground and winged vermin will make their appearance, although it may be difficult to explain how or from whence they have introduced themselves. As game suffer much more from ground than from winged vermin, we shall here direct attention to some of their more striking peculiarities, and submit a few hints as to the means to be employed for their extirpation.

Among the most formidable and difficult of ground vermin to deal with is the badger. It is the largest, strongest, and fiercest of our British wild beasts. Like the bear, it hibernates, remaining in a semi-dormant state during the winter. When it awakens from its hibernation in the spring, it is thin, and greedy for food, and travels long distances in search of it. Badgers devour quantities of young rabbits, digging perpendicularly and surely on the nest. While shooting rabbits on the banks of the Tweed we were fortunate enough to perceive one in the act. Looking over a steep place from the lee side, we were surprised to see the hind-quarters of a badger in a perpendicular position, and sending showers of sand all round. Being out of range, our first impulse was to stalk him; but in this we were

disappointed, as the hallooing of a fisherman who had seen a salmon crossing the ford caused him to look up and listen. We were at once discovered, when he instantly scampered off among some whins. On approaching the spot where he had been at work, we found a hole about eighteen inches deep, and on pushing a stick down, found that he had been within a few inches of a nest of young rabbits about a week old. We have seen places where the badger had dug down on a rabbit's nest to a depth of three feet. From this we learn how keen their scent must be, as in every case which has come under our observation they had dug straight down on the nest.

Eggs are also eaten with great gusto by badgers, hence their destructiveness in pheasant preserves. While visiting some traps in the early morning on the Ladykirk estates, our attention was attracted by a peculiar noise from a partridge. Going stealthily towards the place from whence the sound proceeded, we discovered a badger feasting on the partridge's eggs. Setting our retriever on it, a severe struggle took place, which resulted in our despatching it with a stick. On another occasion we had set, in a large wood, a number of traps, baited with eggs, for carrion-crows and magpies. When we visited the traps after daybreak, we found that the eggs had been removed from three of them without their having been sprung. From a careful inspection of the ground, we saw by the footprints with the five toes and long claws, who had been the depredators. On approaching the fourth

trap, we found a large dog-badger secured, and having with us a fox-terrier, which had been engaged in many battles with badgers, he ran and seized him whenever he got within sight. Wishing to keep the "varmint" alive, we crossed a field to a farm-steading for a sack, and on our return found the dog still hanging on. To put the badger in the sack without putting the dog in also, was more than we could manage, until we got the assistance of a farm-labourer.

Badgers are also fond of young wasps, and often dig their nests out of the ground in the same manner as they do rabbits' nests. The comb they generally leave scattered all around, but with the young wasps carefully picked out. We presume their long rough hair protects them from the stings of the wasps. At Ladykirk incessant warfare was kept up against them by the keepers, in consequence of the destruction they committed among pheasant-eggs. While one evening walking up the side of the river Tweed, opposite the ruins of Norham Castle, we in the dusk descried on the sky-line of a grass field five badgers, evidently picking slugs off the grass. Being armed with a gun, we slipped quietly round, and got between them and the wood. No sooner were we perceived than they scuttled past, making for the covert. Being at close range, and broadside on, the two largest were shot dead, while a third was seized by our retriever, which held on till we got a paling-stob out of the hedge and despatched the "brock."

As badgers and foxes occasionally frequent the

same "earths," there is danger in a fox-hunting country in setting traps, from the risk of a fox getting into them. In such circumstances the method usually adopted is termed "sacking the badger." A moonlight night is generally selected for this purpose. One of the party slips as quietly as possible to the "earth," pushes the sack back into it with the aid of a stick, and by small wooden pins secures it round the mouth of the hole; or a bit of iron hoop is sometimes used, which can be bent into the shape of the hole. A string, which has been passed through the mouth of the sack, is held a considerable distance up the bank, so that the badger's weight will draw it together. Instead of a sack, however, we prefer a strong large-sized net, like that for netting rabbits; and if it has been frequently used and dirtied, so much the better, as it is less discernible. A certain time is allowed for the sack or net to be set; and when that has expired, the party with the dogs scour the ground in the vicinity, and should a badger be started, he makes for the "earth," and is sacked. Should one approach the "earth" without being pressed by dogs, or frightened by the person holding the string, he will not go into the sack.

An illustration of this once came under our notice. Having obtained the co-operation of several keepers in the neighbourhood, we arranged a badger-hunt, and started at midnight for a dark ravine beside the Tweed, which was the haunt of those animals. It was a fine fresh night, with a clear full moon, and alto-

gether favourable for such an enterprise. On getting within half a mile of the "earths," where we must leave the public road, it was arranged that the party with the dogs should stay on the road till two of us went quietly to the "earths" and arranged the sacks. There were several holes open, which we stopped up, except the two that seemed to be most used; and in these we placed the sacks, and then took up our respective positions with string in hand some yards up the bank to wait the result. For a while not a sound was to be heard save the murmur of the river which flowed past. But as soon as the time allowed us for placing the sacks had expired, we heard the hallooing of the party left on the road, and who by this time had commenced to drive the fields in search of "Mr Brock." This continued without effect long enough to become somewhat discouraging, when of a sudden we heard one of the dogs giving tongue. It was the well-known yelp of old Blanche. Having often been engaged in badger-hunting, this old retriever bitch never spoke but when she got on the scent. Now we were all excitement, expecting every moment to see the approach of a dark form, and strained our eyes to the utmost that we might be ready for the draw. In this, however, we were disappointed; for suddenly all was again quiet, and even the distant baying of the dog had ceased—so much so, that we had almost given up hope, when a slight rustle among some leaves attracted our attention, and we could observe an indistinct object approaching. As it came

nearer we saw it was a large badger, its white striped head high in the air, sniffing and moving from side to side as if it smelt danger ahead. On our part we clutched more vigorously in our tightened hand the string, and held our breath, expecting immediately to see it in the sack. But instead of that, it rushed past and disappeared. Another one, however, soon followed in the same track, our attention being attracted by a similar movement among the dried leaves already referred to. Its head, too, was high in the air, sniffing from side to side exactly in the same manner as the previous one. This time we adopted different tactics; and when it was within a few yards of the hole, we jumped to our feet, shouting vigorously, and in an instant the tight and tugging string gave indications of its entanglement in the sack. Had no noise been made, this one would probably have passed the hole like the other. But our rising and hallooing having made it aware of the close proximity of an enemy, it sought refuge in the hole, and fell into the snare. At first it struggled and scraped in such a manner that we had grave fears of the sack giving way; but eventually it became quieter, and submitted to its fate. It appeared that the badgers, on the first indication of danger, had taken a devious course through a young wood, and reached the holes by a wide circuit. Some of the dogs had had their attention diverted by hares and rabbits, but the old retriever had stuck to the scent, and arrived first at the holes. On seeing the

sack, she smelled it, and lay down, evidently satisfied that she had performed her part of the work.

Though badgers, as a rule, remain underground during the day, we know several instances of their lying out, and have seen one found and worried by fox-hounds in a whin covert five miles from an "earth." Badgers are regarded by many as inoffensive, and as feeding only on herbs, snails, &c. Others assert that from the carnivorous character of their teeth they must eat flesh. We have already shown that they eat eggs and young rabbits; and though we cannot give an illustration in proof, there is no doubt but that young hares, pheasants, and partridges will also be included in their bill of fare. That they eat the flesh even of their own species is beyond question,—in illustration of which we submit an incident that some time ago came under our own observation. From the fact of the period of gestation in badgers being longer than in any other British animal, we had traps set for them on the banks of the Leader in December 1882, to capture a couple in order to ascertain, if possible, how long they carry their young. This, so far as we are aware, has never been satisfactorily demonstrated. The first night one was caught; but unfortunately, through a flaw in the iron, the chain gave way, and the badger escaped, carrying the trap at its foot into another "earth" nearly a mile distant. With the aid of a retriever we had no difficulty in tracking it to this retreat; and knowing that, as a rule, no animal will stay in a hole with

a trap at its foot, we were on the outlook for it, being aware that its track would be easily discerned by the dragging of the trap. We failed, however, to find it, and as a heavy storm of snow fell shortly afterwards, we gave it up for lost. Some time after the snow had disappeared, about a quarter of a mile from the hole, we came upon the carcass of a badger beginning to decompose, and partly eaten by some animal. The trap was still adhering to its foot, it having, as is customary, come out of its hole to die. Having frequently had occasion to pass that way, we noticed more flesh eaten off the carcass, and as it was lying in a sandy place, we distinctly saw the tracks of other badgers. Curiosity caused us to rake the ground with a branch in order to see distinctly the footprints of any animal that might go near it. As the result of our experiment, we saw the following day the tracks of badgers only, while more flesh was eaten off the carcass.

The amount of food eaten by badgers, and the large quantity of water they drink, are remarkable. We particularly noticed this while keeping them in a kennel. One badger ate four rooks each night—heads, feet, feathers, and all, with the exception of a few of the large quills, which were all that was found in the morning. If a fifth was put beside it, parts of several were left. It seemed to be very fond of dog-biscuits and greaves, and, as already mentioned, drank a large quantity of water. We have alluded to the lengthened period of gestation in the badger. The exact time they are pregnant has, we believe, as

already stated, never been satisfactorily demonstrated. Several interesting illustrations bearing upon this subject have appeared from time to time in the columns of the 'Field.' In the number of that popular newspaper for 6th April 1861, Mr H. Shaw of Shrewsbury states that a badger, which had been kept in confinement at Haughton Hall, Salop, from April 3, 1860, brought forth two young on 12th March 1861, more than eleven months after she commenced her solitary life. Again, in the number for 25th June 1864, Mr F. Heycock of Bedford says that he caught a badger, and had kept her thirteen months, when she brought forth a young one. Another correspondent, in the number for 9th July 1864, says that he had dug out a female in April and kept her till June, when she died, and on opening her she was found to contain three young. This fact is antagonistic to the belief which is held by many that the pairing takes place in autumn, and the young are brought forth in the ensuing spring. We further learn from the 'Field' of 17th September 1864, on the authority of Mr John Seaman, superintendent of the Hull Zoological Gardens, that a badger brought forth young after being shut up in a cage there for fifteen months. So recently as 22d March 1868, we learn from the same source that a ratcatcher named Butler, living near Oxford, had kept a female badger in his possession from November 1866, and had her locked up in an iron cage. On the 1st of March 1868, after she had thus been in confinement for fifteen months, she gave birth to four young ones.

The badger is by no means generally to be found in this country; and there are few game-preservers who will regret its absence in their locality. At the same time, its wholesale destruction would be a subject of regret, more especially as it is now becoming one of the rarest of the fauna of our country. As it is easily caught alive, we would suggest that proprietors on whose estates they are plentiful, might afford facilities for having them transferred to other parts of the country, and thus prevent their extinction, which is not at all improbable.

Another destructive enemy of winged and ground game is the fox, which is usually treated as such where no "pack" is kept. The cunning and sagacity displayed by Reynard in pursuit of his prey are proverbial. Hares, rabbits, and even the most wary of the winged species, are unable to protect themselves from his stealthy approaches. The cunning of the fox is so well known, and so much has been written on the subject, that we shall only touch briefly on a few incidents with which we are acquainted. Unfortunately, the time when they are rearing their cubs is also the time when game of all kinds are breeding, and when they more easily become the prey of this cunning marauder. Nothing comes amiss to him, from the farmer's goose or turkey, down to moles, blackbirds, linnets, and the smallest of our birds. When the cubs are small, the vixen goes several times a-day to the mouth of the hole, when they come out and suck her, exactly in the same manner as pups do when their mother is standing on her legs.

When unobserved on one occasion watching a vixen nursing her young, we gave a sharp whistle, and in an instant she skulked into the brushwood, and the cubs as speedily bolted into the hole. It is a proof of the remarkable instinct of the fox, that no sooner does the dog or bitch become aware that their breeding-hole is discovered than they remove their progeny, and sometimes to a long distance, rarely if ever allowing a single night to intervene. As already observed, the amount of game destroyed by one litter of foxes is very great, and this can be to a large extent ascertained by the numbers of wings and limbs which are to be found at or in the holes. The mole seems to be a dainty morsel with them, and a great many fall victims to the rapacity of Reynard. A litter of foxes, not quite full-grown, recently made their appearance in a splendid grouse-corrie in the Dalnaspidal shootings, having evidently been disturbed elsewhere. One of them was seen by a shepherd, who communicated the information to the keeper, who—the district not being a hunting one—lost no time in having a number of traps set in the locality. We accompanied him on his rounds some days after, and found two of the cubs trapped nearly a mile apart, and at one of them three moles and a young hare were laid down, no doubt by the vixen, guided by maternal instinct; while at the other one we found two moles, a ptarmigan, and a dotterel. It may be asked why the traps should have been set for several days before any of the cubs were caught. The reason is obvious: their

scent is so keen, that they no doubt associated the smell of the keeper with the traps which he had handled and the dead hare used for bait, and thereby suspected danger. The keeper being thoroughly up to his work, took care to have the traps set where they could be seen at a distance from an eminence with the telescope, well knowing that his visiting the traps daily would have destroyed any chance of success. After some days had elapsed, and the scent of man had evaporated, the vermin no doubt became bolder, and at length ventured on the treacherous trap.

The manner in which the fox catches grouse or other game-birds resembles very closely the action of a pointer or setter. An illustration of this recently came under our notice. While grouse-shooting on Heriot moor, we had occasion to call upon a shepherd in the valley before uncoupling our dogs and commencing operations. It was one of those beautiful mornings which the sportsman and the tourist so much appreciate, affording by the clearness of the sky and purity of the atmosphere every advantage for an extensive view. On emerging from the shepherd's hut and looking round, we descried an object on the hillside directly opposite, the nature of which, from its peculiar attitude, we were unable to make out. It stood, or rather crouched, on a piece of bare white ground, with a dark spot of heather directly in front, and on further inspection we discovered it to be a fox pushing his way, pointer-like, towards the heather.

His movement was slow, stealthy, and direct. But just as he was going to spring into the bush an old cock-grouse darted from the heather within a few feet of his nose. Instead of making a spring at the bird, Reynard drew back with an air of disappointment, and looking as if he had been caught in some discreditable affair, skulked into a cover within twenty or thirty yards of the spot where he had been discomfited. From what we saw on this occasion, we feel satisfied that, with his keen scent, his light and soft movements, and the fact of his colour generally resembling his hunting-ground, the fox can have no difficulty whatever in capturing any amount of grouse he may set his heart on, more especially up to the end of September. Even in winter, foxes seem to have no difficulty in catching their prey. Another illustration in point. Having occasion to cross a piece of moor in the early morning, after a fall of several inches of snow, we came upon the track of a fox. Curiosity tempted us to follow it, in order to perceive what he had been about. He had been going at a slow pace, as was discoverable from the nature of the impression made by his footprints in the snow. All animals that walk like the cat and the fox make similar impressions, which give their tracks the appearance of having been made by animals with only two feet; but when they trot or gallop, the footprints are of course different. The track continued across the moor, till we saw that Reynard had sat down, and then struck off at right angles. Strange as it may

NEARING HIS PREY.

seem, it was plain to us at the time that he had described a circle, which he had gradually and systematically contracted towards the centre, and had at last made a bound of some eight or ten feet to a dark spot which marked a spring amid the snow-covered ground. Upon making an inspection to discover the secret of what appeared an unintelligible manœuvre, we were surprised to find the feathers of a mallard, that had unsuspectingly become the victim of his rapacity and cunning. Yet there were no traces left of Reynard having made a meal of his prey on the spot; and therefore, prompted by curiosity, we followed his track, and found that he had reserved for himself the enjoyment of the feast until he had reached his retreat, a rock in the mountain-side, upwards of two miles from the spot where he had made his successful stalk.

Though the fox depends chiefly on stratagem in catching his prey, we have seen one chasing a hare like a greyhound. He was about a hundred yards behind when we observed them, and gained no ground during the time they were in sight. It by no means follows, however, that the hare would not ultimately succumb to the superior powers of endurance possessed by its enemy.

To "catch a weasel asleep," it has often been said, would defy human ingenuity. What, then, will be said of the detection of Reynard in the enjoyment of an unconscious snooze? Incredible as it may seem, we are not without a well-authenticated case

of even a fox with all his wariness being caught napping. A most intelligent and observant keeper on the Atholl estate, in the spring of 1877, while going his rounds, was crossing Carn-an-righ, in the solitude of which foxes and birds of prey find a congenial resort. On looking down from an eminence, he observed, at a considerable distance beneath him, a fox lying curled up among the heather. Reynard had taken the precaution, in accordance with natural instinct, to select as his resting-place a spot where he would discover the first approach of danger. He had, however, not taken into calculation that he could be easily discovered by one looking down upon him from the brow of the hill above. The keeper's first impulse was to stalk the "varmint," and being an expert at deer-stalking, and having made the habits of game and beasts of prey the study of his life, he felt that this was to be no easy matter. The fox lay comparatively exposed on the hillside without any intervening knolls, and the ground being covered with shivers and small boulders, increased the difficulty of the keeper in getting within shooting distance. Possessing long experience, and that skill which none but an enthusiast in his profession could acquire, the first thing he did was to divest himself of his shoes, that he might avoid making a noise among the stones. Keeping in view the keen sense of smell which is nature's protection for the fox, he placed himself on the leeward side of the animal, and proceeded to carry out his difficult and doubtful un-

dertaking. Having got within about thirty yards of the object of his anxiety, he cocked his gun in silence, and being a first-rate shot, he concluded that the doom of Reynard was sealed. Most ordinary keepers would then have fired without further ceremony, but being a student of natural history, he was anxious to ascertain how near he could approach the fox, with the view of noticing how it would act when it discovered the dangerous proximity in which it was placed to man, the object of its natural dread. Cautiously and stealthily he advanced till within a few yards of the animal, when he discovered, to his surprise, that it was fast asleep, with its eyes closed; and it was not till he was stooping over it, that it awoke by the sound of his breathing. When the eyes of the fox met his, it appeared for the moment actually paralysed. Seizing his opportunity, and quick as lightning, the barrels of the keeper's gun were across the neck of the fox, which he pressed to the ground till it was wellnigh suffocated. He then seized it by the back of the neck with one hand, and getting its body between his bare legs (as he wore the kilt), he was then able to take from his pocket a piece of cord, which he promptly utilised into a muzzle. Reynard being thus utterly discomfited, submitted to be strapped up into the game-bag of the keeper, who carried him home to the shooting-lodge in triumph. This anecdote we believe to be unprecedented in the annals of the sportsman or fox-hunter; and were it not that it is authenticated by one whose high char-

acter and veracity are unimpeachable, we would have hesitated to transfer it to the pages of this volume.

Another species of vermin hateful to the keeper and most destructive during the hatching season, is the hedgehog. The destructive habits of this animal are but very partially known. This, we believe, is to be accounted for by people being ignorant of the activity which this animal can display when unobserved. Many people think, when they see the hedgehog curled up and quietly submitting to be kicked about, that it is naturally dormant and sluggish in its habits. Did those persons only chance to look out from some concealed strip of plantation on a new-cut clover-field some dewy night or after a warm shower about dusk, they would soon discover how deceitful are appearances. They might then see the hedgehog running about with the activity of a rabbit, and its nose to the ground, looking for its prey with all the instincts of a weasel. The depredations of the hedgehog are chiefly confined to nest-harrying. The amount of mischief done in this direction is simply incalculable, while its greed and rapacity seem well-nigh unlimited. A friend of ours, a farmer in Peeblesshire, had about his farmyard a number of fowls. During the summer months a hen—by no means an unusual circumstance—had strayed away a short distance from the house, and made its nest in some brushwood by the side of a small plantation. She had dropped eleven eggs into the nest, and the farmer's wife had resolved to leave her uninter-

rupted, and allow her to hatch her brood in the open air. One morning, however, on looking into the nest, where there were eleven eggs the evening before, she discovered that nine of them had been removed during the course of the night. The attention of the husband being called to the circumstance, he satisfied himself from appearances that they had been carried off by some species of vermin, although no part of the shells was to be seen. He therefore planted a trap in the small roadway into the nest, and before the sun had set he heard a loud squealing, which, on visiting the place, he found to proceed from a huge hedgehog that had been making his well-known way into the nest, evidently for the purpose of carrying off the remaining eggs. How these animals carry eggs we have, strange to say, never been able to discover. That they do carry them we have no doubt. Our opinion receives confirmation from the fact that, in the case to which we have just referred, notwithstanding that the most diligent search was made, no particles of the egg-shells could be discovered.

Being anxious to find out how hedgehogs carry eggs, we had one of these animals put into a walled garden for the purpose of watching and seeing him in the act. Every snail and slug with which the garden was infested disappeared. He collected all the dead leaves from beneath the fruit-trees into a corner, in which he concealed himself during the day. As he never emerged from his concealment till

dusk, it was difficult to watch his manœuvres; but the activity he displayed in running about was most remarkable. We had eggs laid down, but never could see him lift one, though he occasionally had them removed before morning, when we found the shells among the leaves. As numbers of cats prowled in the garden, it was very amusing to watch them chasing and pouncing on the hedgehog. Whether they were attracted by the smell, or mistook him for a rat or a rabbit, we cannot say. On a moonlight night we sat up till late watching them, and were surprised at the pace at which the hedgehog ran in order to elude the cats — dodging sometimes below a gooseberry-bush, where he would remain for a while, his enemies watching intently the place where he disappeared. In a short time he would pop out at the other side, and run across a green to the opposite side of the garden. Our attention was directed to a large white cat sitting on the top of the garden-wall, cowering ready to spring on the bristly ball when it should come near enough. When within distance puss made a bound, and landed right on the back of her supposed victim; but when, instead of digging her claws into the soft fur of a rabbit, she felt she had landed on a clump of spears, she leaped high in the air, gave a loud scream, and scampered off a wiser, and, it is to be hoped, a better "malkin."

The depredations of this midnight marauder are not confined, as many think, to eggs and small birds. It has been known to kill young hares and rabbits, and

invade the pheasantry and kill the young birds even when half-grown. This fact we would have been slow to believe had we not had it confirmed by personal observation. While rearing pheasants some years ago, we found in the morning, at the back of one of the coops, a bird about half-grown mostly eaten, while the remaining young birds seemed very scared. Thinking it was a cat, we on the following night sat down with our gun among some bushes close by. When it became too dark to discern any object on the ground, the hen in the coop screamed, while the birds fluttered out in the darkness in all directions. Running forward, we perceived a dark object close in front of the coop, when we fired, and found, on striking a light, that a large hedgehog had been shot. Seeing that the successful hatching of either pheasants, partridges, or grouse is impossible where these vermin are allowed to exist, it is of the utmost importance that they should be kept down.

In hedgerows and evergreen bushes, particularly if dead leaves are allowed to fall and lie, hedgehogs burrow among the leaves, lying dormant during the winter months. When they emerge from their dormant condition in the spring, they are, like the badger, thin, and, as a matter of course, greedy for food. A few traps planted here and there in such places as we have described, baited with eggs, are certain to be visited by the hedgehog in his nocturnal rambles.

The hedgehog displays great cunning in the concealment of its young. Should they be discovered,

though left unmolested, the mother immediately removes them to another place at some distance. We lately came on a hedgehog's nest with three young ones, and intended to hand them over to a gentleman who was desirous to have one or two hedgehogs for the purpose of putting them into a high-walled garden for the destruction of snails and slugs, with which it was infested. Having other work for the day, we returned for them on the following morning, but found that they had all been removed from the nest, to such a distance that even with the aid of a dog they could not be discovered. As we noticed elsewhere, the instinct of the hedgehog accords with that of the fox, which never fails to remove its young, at whatever age, so soon as it knows that its hiding-place has been discovered.

In the preservation of game, one of the first duties of the keeper in the spring months should be to spare no pains to secure the extermination of these depredators.

Another animal most destructive to game is the cat. Since preservation has been carried on to such an extent of late, the wild cat in most places of the country has been almost extirpated. But in some of the extensive deer-forests in Inverness-shire, Ross-shire, and Sutherlandshire, where vermin are allowed to breed without molestation, considerable numbers of them are still to be found. In 1883, a brood of kittens were reared in Crag-an-graghag, opposite Corrie Charaby, in Glen Orrin in Ross-shire. In the

WILD CAT AND YOUNG

spring they emit those sounds that in towns render night hideous to man, but of a much louder and deeper tone than the domestic cat. As they, however, have not the sagacity and cunning of the fox, they are easily trapped; and where game-preservation is to be carried on, they must not be tolerated. The same remarks apply to the polecat and the marten. With domestic cats it is very different, as they are continually being reared by farmers and cottagers; and as numbers of them give up hunting rats and mice, for which they are kept, and take to the woods for game and rabbits, it is easy to see in game-preserves how this animal demands the vigilance of the keeper. The destruction of cats by game-keepers is a continual source of discord between him and his neighbours. But once they take to hunting for game and rabbits, they are useless for domestic purposes; and the amount of game killed by one cat is very great, as they at times go a long distance in search of prey. Having once had a cat in our possession which took to hunting in the woods, we were curious to see what it brought home. Young hares and rabbits were its principal victims; but young pheasants, partridges, corncrakes, pigeons, water-hens, and once a young unfledged mallard, which must have been carried a long distance, were the result of her rambles. When trapping rabbits in a hedgerow a mile and a half from home, we found her secured in one of the traps. Having with us an old retriever, which always went before us and made

a sort of point when a rabbit was in the trap (a great assistance when it is dark), we at once recognised a domestic acquaintance with whom the dog was on the most friendly terms. Instead of rushing in and worrying her, as was her habit with other cats, she sat down and howled in a most melancholy strain, no doubt interceding in her own way for puss to be released; and on putting our foot on the spring and allowing her to escape, she limped away, much to the apparent satisfaction of the dog. Her leg, however, being much damaged, we were glad of an excuse to get rid of her. Cats have little cunning, and are easily caught with traps baited with a bit of rabbit, or indeed almost any kind of flesh or fish. If there be a footpath or walk through the wood, cats will generally travel on it, and are easily attracted by a bait near it. A more humane method than the iron trap is a wooden box-trap, with a little valerian root sprinkled in it, and which, from the odour it emits, will be sufficient to attract any cats that may be in the locality without recourse being had to any other bait.

The stoat is another species of vermin which the game-preserver uniformly dreads. Where rabbit-trapping is practised to any extent, these pestilent animals are kept down by being frequently caught when going out and in to rabbit-holes. So blood-thirsty is the stoat that incalculable mischief must be done to game where these animals are allowed to exist. Both ground and winged game fall victims to their shameless pertinacity.

If unexpectedly scared by the approach of any person, they will lose no time in finding their way into any stone wall or a heap of stones which may be at hand, and there they will in the most impudent fashion look out in the face of the intruder, "spitting" out their invective as if they had been injured by being disturbed. The alacrity with which they can disappear from one hole and make their appearance a few feet in advance in a stone wall is remarkable, more especially if a gun is being presented. We have more than once fired at those vermin when their heads were exposed as we have indicated, and although the pellets battered the stones at the immediate spot, we have been surprised to discover that to all appearance the stoat had evaded the shot and escaped uninjured. The pertinacity of this animal is seen in the long distance and length of time it will follow on the track of a rabbit, which not unfrequently becomes so terrified as to lie down and cry before the stoat comes up to it. They never fail to seize their prey by the neck, generally behind the ears, where the blood is most accessible—a remarkable illustration of their instinct. Having observed one pursuing a half-grown rabbit for a considerable time in the manner indicated, it got on its back, seized it between the ears, and hung on notwithstanding the rabbit running and struggling to get rid of it. Having despatched its victim, we interfered, and being near an old quarry, got a large flat stone, which we propped up with a bit of stick, to which we tied the rabbit, and, watching

at a distance, saw the stoat attempt to drag the rabbit, which resulted in its being crushed beneath the stone. While ferreting in a hedgerow in Berwickshire where rabbits were destroying the head-rig of a field of barley, the ferret seemed unable to make them "bolt." Trying hole after hole which we knew contained a large number of rabbits, with the exception of a few small ones none would come out. All at once we saw about half-a-dozen "bolt" out of one of the burrows we had tried a few minutes before. Thinking our ferret had got back unobserved, we walked along, and witnessed a stoat come out of the hole from which the rabbits made their hurried exit.

It is a mistake to suppose that the attacks of stoats are confined to four-footed animals or young game. Their depredations are confined to no class which they are able to kill. While walking on the road, we once observed a stoat crossing in front of us carrying a young well-fledged wood-pigeon. It was going at a remarkable pace, bearing such a large bird; and by a series of bounds, of between three and four feet, it would very soon have been out of sight. On our running up it disappeared, leaving its victim, which was bleeding at the neck, having no doubt been got out of a nest in a young spruce-wood at the side of the road. We tied it up by the feet to the root of the hedge, and going home for a trap, secured the stoat in a few minutes. Another example of how these vermin catch their prey recently came

under our observation. While fishing in the Tweed, our attention was attracted by the loud screaming of a curlew, and on looking round, saw it flying in a peculiar manner straight up in the air, till it reached the height of about fifty yards. It then became quiet, and came circling down till it reached the ground, when it came "tumbling down the hillside toward us." Throwing down our rod, we ran towards it to find an explanation of this strange phenomenon. On approaching it, a stoat left and disappeared among some brackens. It had seized this most wary bird on the ground, which bore it aloft till, weakened by loss of blood and the weight of its adversary, it fell to the earth as described. On picking it up, the wound on the neck revealed where it had been seized. In trapping stoats nothing makes a better bait than one of their own species. We have frequently, by shooting one in the latter part of the summer and using it as bait, secured the entire brood. The stoat, like the mountain-hare and ptarmigan, changes its colour in winter to pure white, with the exception of the tip of its tail.

The weasel, though smaller in size, very much resembles the stoat. It has not, however, the black-tipped tail, neither does it change its colour in winter. Though very destructive to young game and rabbits, its staple food is mice, devouring the whole carcass. In some we have dissected, we found skin, feet, &c., in the stomach. They are easily trapped, in the same manner as stoats; but attention must be paid that

the traps are set "kittle," in order that they may be sprung with their light weight.

Another enemy to game is the rat. After it has grown to a large size it acquires an appetite for flesh, and kills domestic chickens, ducklings, pigeons, rabbits, &c. When rats breed out in hedgerows, which they do in large numbers, it will thus be seen how destructive they must be to game. Often, when ferreting rabbits, we have found a rat the only occupant of the burrow. Eggs are carried off by rats without being broken—the manner in which they carry them being the subject of a deal of discussion. From personal observation, however, we can testify as to how one was carried. Going hurriedly into a stable where hens were in the habit of dropping their eggs, we witnessed a huge rat bearing an egg along the manger towards its hole at the end. It hugged it with one of its fore-feet, holding it against its breast, and in this manner was travelling along the outer beam of the manger. Making a rush towards the stall, it dropped the egg, but falling on straw, it was not broken.

Adders must also be included in the category of enemies to the sportsman. These reptiles are very plentiful in many parts of Scotland; and without assuming that they are very destructive to game, we submit two illustrations which have come under our observation. In 1878, at Dalnacardoch, we saw one seize a young grouse, a day or two old, by the neck, and drag it into a hole, the blood squirting out at

both sides of its mouth. At the same place, in the summer of 1880, we knew of a grey hen sitting on eggs in a tuft of heather, and on passing near the place saw the bird referred to evidently in great distress. On going to the spot she fluttered away a short distance; and we found an adder killing a newly hatched chick, while three others lay dead. With the aid of a stick we speedily destroyed the adder, and after removing it and the dead birds, retired a short distance, and saw the mother bird return and collect the remainder of her offspring. On the same moor we have destroyed great numbers of adders when grouse-shooting. The pace at which they can wriggle through the heather, and the instinct they display in protecting themselves, is most remarkable. While driving at the place referred to, we saw a large one crossing the road in front of us, and put the whip to the horse in order to run the wheel over it if possible. When within a few feet of it, its fate seemed inevitable; but in an instant it threw itself like a clue to the side, and disappeared among some rushes. Adders feed like miniature boas, by sucking in their prey whole, without tearing it in pieces. When we consider that young grouse, frogs, &c., are several times the size of an adder's head, it is remarkable how they manage it. The facilities which they possess for swallowing is accounted for by the remarkable power of expansion in their jaws and throat, which we are not aware pertains to any other animal in this country. We have more than once, as an experiment, dissected

those reptiles on making their appearance from old turf-dikes or dry peat-bogs, and always found that their stomachs were empty. We believe that they will rarely, if ever, be discovered in the active exercise of locomotion when gorged with food.

While grouse-shooting in August 1882, we sat down to lunch on the bank of a burn, and when sitting, we descried an adder on the opposite bank about a dozen yards off. Putting a cartridge into the gun, we were going to shoot it, when it disappeared among some rough heather. Laying down the gun, we kept our eyes on the place. In a short time it appeared a considerable way down the bank nearer us, and observing that it was unaware of our presence, we watched its movements. A frog jumped out of the bank, evidently in great fear, making rapid bounds towards the water. The adder, with amazing rapidity, wriggled after it, and caught it by the hind foot. The frog squeaked in its terror, and struggled violently to escape. The adder held on, and gradually chewed or sucked the leg into its mouth till it came to the body, and as the other leg was spread out, it seemed to us impossible that it could ever swallow it. In this, however, we were mistaken; and although we cannot adequately describe the operation, yet the body was gradually "gobbled up" in the same manner as the leg—the other limb being doubled back towards the head. When the entire frog had disappeared, its shape was quite visible, the part of the adder's body distending to its dimensions. We

then shot the head off the adder, and on cutting it up, of course found the frog quite dead.

While, as a rule, adders will not injure any one unless they discover they are in danger, we have known them occasionally attack dogs while hunting among the rank heather, or among rushes by the side of some sluggish mountain-stream. No doubt in all such cases it has been in self-defence, being apprehensive of danger from the dog. The effect of a dog being bitten by an adder is, that the blood becomes rapidly poisoned, and is succeeded by the dog becoming swelled and manifesting great pain. Although the adder's bite in such circumstances very often proves fatal, still we have known cases where the dog has recovered without any medicine internally or externally being applied. The death or recovery of the dog will, we believe, depend much upon the part bitten, and also upon the quantity of virus or poison injected into the blood.

The Stoat.

The King of the Feathered Tribe.

CHAPTER XIX.

BIRDS OF PREY.

The birds of prey to whose depredations game are exposed are numerous, and differ widely in their habits and mode of attack. Some, like the eagle or falcon, are bold, dashing, and straightforward, as if scorning to take any covert advantage of the object of their pursuit. Others, again, like certain of the crow species, partake more of those peculiarities which mark the cunning and contemptible thief. Instead

of openly attacking the parent birds, they prowl and dodge about during the breeding season, robbing nests and killing the young broods before they are many days out of the shell. There is still another class, not of such destructive habits as is generally supposed. The kestrel—which lives largely on mice, shrews, beetles, caterpillars, and other insects—and the buzzard and the owl, belong to this category.

At the head of our list of birds of prey stands the golden eagle, whose muscular power, splendid proportions, and true dignity mark him out as the king of British birds. Unfortunately this splendid bird has of late years become very scarce, and we believe that but for some of our large proprietors, including the Dukes of Athole and Sutherland, Lord Lovat, Mr Balfour of Strathconan, and some others, who preserve them with scrupulous care, they would ere now have disappeared from our mountain solitudes. Though destructive to game, we are no advocate for their extermination. There are few sportsmen nowadays who would grudge the eagle his food-supplies, even although these were the mountain-hare, the ptarmigan, and the grouse. No one who has seen this splendid bird soaring amid the Grampians can fail to admire the power and dauntless energy of that king of the feathered tribe—the pride of all Scottish naturalists.

Half a century ago eagles existed in great numbers, but since then they have gradually decreased. It has been alleged that "such was the depredation committed among the flocks during the season of lamb-

ing, and which is the time when a large supply of food is required by the parent birds for their young, that every device was employed, and expense incurred by rewards, for their destruction. From March 1831 to March 1834, in the county of Sutherland alone, 171 old birds, with 53 young and eggs, were destroyed—which, while it shows that the bird is not of that extreme rarity which is sometimes supposed, it at the same time tells us that if the war of extermination be continued, we shall ere long look in vain for this appropriate ornament of our northern landscape."[1]

Fortunately the public sentiment regarding this bird has undergone a pleasing change. Most proprietors now regard an eagle's eyrie as a thing to be proud of, and instructions are given to their keepers that the eagles are on no account to be interfered with, but, on the contrary, are to be strictly protected. Were such instructions uniformly carried out, they might very soon increase; but from the numbers which annually —and more especially at nesting-time—find their way into bird-stuffers' shops, we are of opinion that the chances of their increasing are very small. What tends greatly to promote their destruction is the rage for making collections of stuffed birds and eggs, and the unscrupulous conduct of collectors in bribing keepers, gillies, and shepherds to co-operate with them in carrying on their nefarious practice. By numbers of gentlemen nowadays visiting the Highlands of Scotland, and to many of whom money

[1] Nat. Lib., vol. ix. By Sir Wm. Jardine, Bart. Edinburgh: 1838.

is no object, large sums are given for eagles, and thus our mountain scenery is robbed of its rarest ornament.

Another unfavourable condition to an increase of eagles is the proposal to inaugúrate a new order among sportsmen for the purpose of chronicling the names of those who have succeeded in acquiring the "hunter's badge." This distinction can only be acquired by the four following conditions: 1st, the shooting of an eagle; 2d, the shooting of a stag; 3d, the shooting of a seal; 4th, the killing of a salmon. The "badge" theory, as has been propounded, is in one sense a harmless and childish enterprise. We confess, in so far as the seal, the salmon, and the stag are concerned, that it might very generally be aimed at and acquired without serious injury to any one. But when we consider the scarcity of that noble monarch of Scotland's grandest scenery, every lover of nature, of the feathered tribe, and of truly genuine sport, will join with us in deprecating the "badge" theory as censurable in the highest degree. No one who has seen the eagle circling in the air above the summit of Scotland's highest mountains, or with majestic swoop descending upon his quarry, can regard with feelings other than of pity and indignation the advocacy of any theory which would threaten its extermination. It is therefore to be hoped that all true and intelligent sportsmen will regard the "badge" as a childish distinction inspired by inordinate vanity and meaningless self-

conceit, and which cannot be too severely deprecated. It is well known that a large bird like an eagle flying within a hundred yards looks much nearer than it really is, and that many young sportsmen, in their anxiety to secure the trophy, would not be too particular as to the distance at which they would shoot at this royal bird, while many only wounded would fly away to pine and die amid their native solitude. It is therefore to be hoped that all Highland proprietors will make even more stringent conditions with their lessees and gamekeepers that this noble bird is not to be interfered with, otherwise its extermination at no distant date may have to be deplored.

The eagle generally builds her nest on an inaccessible rock, though we succeeded—without the aid of ropes—in climbing to one in Strathconan forest in Ross-shire. The eyrie is generally composed of sticks, many of them of considerable size, and in some cases, from the absence of trees, must have been carried many miles. We have more than once seen a stag's horn utilised and entwined among the branches. The eagle generally lays two eggs, though instances are recorded of three being seen; but in such cases one is always addled—in fact, one is frequently addled when there are only two. An eagle in captivity at Carstairs laid four eggs in the spring of 1883, but we never heard of this number being in one nest in their wild state.

Eagles have been known to attack foxes, cats, and other animals. While crossing Ben Vachert accom-

panied by a keeper who had a brown-coloured Scotch terrier, which was sometimes considerably in advance, an eagle swooped down at it. Evidently being aware of its danger, the dog ran howling towards us with its tail between its legs, and but for our being present, would certainly have been carried off.

The keeper at Wemyss Castle, in Fife, had an eagle in confinement which was trapped in Giack forest. Some time after, he got a large fox sent from the same district, and not having a suitable place to keep it in, he put it beside the eagle, which had a house and large yard covered with net-wire. The following morning he found the eagle had killed the fox and had a large portion of it eaten.

Eagles, it is said, live to a great age; but reliable statistics of their longevity are difficult to acquire, although many statements bearing on the subject have been put on record. The most recent of these is contained in the following paragraph: "At Nakkoo, in the island of Lapland, an eagle was shot on the 15th ult., which measured 6½ feet between the tips of the wings. Round its neck it had a brass chain, to which a little box was fastened. The box contained a slip of paper on which was written in Danish, 'Caught and set free again in 1792 by N. and C. Anderson. Boeted in Falster, Denmark."[1]

An American journalist, in a recent article on the longevity of fowls, fishes, and animals, states: "Birds sometimes live to a great age, the eagle and

[1] 'Edinburgh Evening News,' May 3, 1881.

the swan having been known to live one hundred years."[1]

We can authoritatively vouch for the fact that an eagle died in the Zoological Gardens, London, after having been in their collection for twenty-five years. It would be a mistake, however, to rest any theory upon such a case as this, seeing the removal of animals out of their natural conditions and placing them in confinement is most unfavourable to a prolonged existence.

During winter, when the hills are covered with snow, eagles have difficulty in procuring their food. This difficulty is aggravated in consequence of the mountain-hare and ptarmigan being, by a wise provision of nature, transformed into the very colour of the snow, and thus rendered more difficult of detection even to the eagle's eye than they would otherwise be. In those mountain-regions, where for miles upon miles a black speck is not discoverable after some of those terrible snowstorms, eagles suffer more than most birds. In their extremity they have been known to attack deer. They have been seen during protracted storms hovering above a herd of deer, the effect of which seems invariably to drive the frightened animals into a compact mass, as if each one was afraid of being marked out as the victim to be assailed. In December 1883, we personally witnessed an incident of this description. While on a visit to the forester in Glenbruar, we observed three eagles flying

[1] 'The Scotsman,' New York, September 1, 1883.

along the ridge of the mountain. Two lots of deer which were lying on the face seemed greatly alarmed, each lot running together in the manner we have indicated. One of the lots of deer and two of the eagles disappeared over the sky-line. The other bird remained circling above the deer which remained full in sight, and latterly, with lightning speed, made a dash down upon the affrighted herd, consisting of about thirty hinds and calves, fixing his talons in the neck of one of the largest of the hinds, which chanced to be on the outside of the group. The hind thus attacked left the herd and ran round in circular form, the eagle all the while flapping his heavy wings upon the head of the terror-stricken animal. Eventually it succeeded in shaking off its assailant, and made its way towards the others, which by this time were pushing round the ridge of the hill. Ere it had reached the herd, and just as it was passing from our view, the eagle made another dash at its victim, and appeared resolute in its purpose. Unfortunately the soft snow was lying to the depth of a foot and a half, and as the ascent of the mountain was very precipitous, we were unable to follow in pursuit, and thus see the end of one of the most remarkable incidents which we have been privileged to witness in the interesting study of natural history.

On another occasion we witnessed an eagle attack a fawn; but the mother, attracted by its cries, ran to the rescue, and immediately drove it off. Fawns newly calved, lambs, hares, rabbits, and stricken deer

which escape from the sportsman but afterwards die, constitute the staple food of this magnificent bird. Though we have found grouse and ptarmigan at the eyrie, we are of opinion that few are killed by the eagle. The circumstance, however, of them flying backwards and forwards with food to their young, drives the grouse away from that locality, as they regard the presence of the eagle to be incompatible with their security.

The sea-eagle or erne, though banished from many places where it was in the habit of breeding, is still to be found on the west coast. In 1883, a nest was robbed in Shetland by a young man being lowered ninety feet with a rope to a cleft of a great sandstone sea-cliff, known as the "Bard of Bressay," and two eaglets carried off. While at the nest he was attacked by the parent birds, but a shot from a revolver caused them to circle about at a distance of nearly 200 yards. In the construction of the nest he observed a spar of wood about six feet long and three and a half inches in diameter, sticks, sea-tangle, heather, and grass, while in the inside it was lined with wool. The eaglets seemed to thrive remarkably well in captivity, and were exhibited in Edinburgh during the following winter.

The peregrine falcon, though not the largest, is the most destructive of the hawk tribe. He is a merciless tyrant, a meaningless murderer, knocking down victims from mere wantonness. He almost invariably strikes in the air, using his wing, with which he fre-

quently decapitates his victim. Endless discussion has taken place between falconers and naturalists on the one hand, and sportsmen and keepers on the other, as to whether falcons should be preserved or killed down in the interest of game-preservation. While no advocate for the extermination of our rarer birds, we are forced to the conclusion, from personal observation of the headless victims destroyed by peregrines, and the profuse remains of grouse and other birds around their eyries, that they destroy immense quantities of game. It is surprising how seldom these birds are seen, even in places known to be frequented by them, unless watched for at the nest. At the same time, they are by no means so scarce as many people believe. There is hardly a deer-forest that does not contain one or more eyries, and few stalkers care to molest them. A pair breed annually in Craig-a-glastol, overlooking the river Orrin, in Strathconan forest. The eyrie commands a view of Glen Orrin, which is about half a mile in width; and when a duck, curlew, heron, or other bird flies up and down the glen, the hawk is on him like a thunderbolt, and his doom is sealed. While on the river-side some years ago, we observed a mallard flying up the glen, and watched with interest the result. As it got past the eyrie, we were about to think it had escaped the notice of the peregrine; but in an instant, as with lightning speed, it was upon its prey, striking it to the ground, and flying down on the top of it. We ran forward, making a noise, when the hawk flew off, and to our

surprise the duck got up and also flew away, apparently unscathed.

After much experience among the mountain solitudes, we have not above half-a-dozen times seen the peregrine in the act of making a quarry. While sitting at a deer-drive in the Feadan Aultulisg "pass," on Carnbane beat in Glenstrathfarar, eagerly watching the approach of some deer, we hard a loud "clap" in the air, and on looking up saw a blackcock falling from the peregrine. It fell plump down among some brackens, evidently quite dead, and the falcon pursued its course without taking the trouble to look after it.

There are few birds more swift in their flight than the falcon. While ptarmigan-shooting in September 1880 at Dalnaspidal, a peregrine passed within a few yards of us in pursuit of one of those birds. Our attention was attracted by the "whish" of the wings; and though we feel certain one second did not intervene between the seeing and shooting at it, such was the velocity of the flight that it was far out of shot.

It has been asserted by falconers and naturalists that it is not possible for the falcon to kill so many grouse as it is blamed for, in consequence of its rarely striking on the ground, and that the grouse will not take wing when the hawk is in the air. Would those gentlemen study the habits of the peregrine in his wild state, instead of the tame ones, which are trained to trust to their master and his dogs to flush the game, they would then have abundant reason to change their opinion. The peregrine

"THE HAWK WAS ON HIM LIKE A THUNDERBOLT."

in his wild state is too cunning to show himself in the air, but sits on some rock where he can command an extensive view, as at Craig-a-glastol in Glen Orrin, and make a quarry at any bird that may come within the sweep of his vision. Their staple food on inland moors, judging from remains found around the eyrie, is grouse, ptarmigan, black-game, curlews, duck, and plover.

The peregrine, as we have seen, seems to take delight in striking birds, even when he does not require them for food, and continues his flight without taking the trouble of looking after his fallen prey. That distinguished naturalist Mr Booth says: "If keepers were able to point out the carcasses of birds that had been struck down, the tenants of the shooting might be disinclined to believe what falconers assert as to the harmless character of their favourites. I do not refer to the remnants of prey on which the falcon might have made a meal, but to those victims that have been struck down and left untouched. Where falcons are tolerably numerous, I have repeatedly come across birds that I imagine have been destroyed in this manner. Some few are headless, and others lacerated and torn at the neck or upper part of the back. All that I have met with were dead, except on two occasions: once I saw the bird fall, and the falcon continuing its flight, though I did not observe the act of striking. In this instance the grouse would have been dead had my arrival on the scene been delayed many minutes. Having carefully examined this bird,

another that I witnessed almost decapitated, and a third that fell with its captor to a shot as it passed over my head, I feel justified in concluding that those I have from time to time met with have fallen by the same means. . . . In addition to the three cases mentioned, where I had carefully examined the victims, I have seen about as many more where grouse have been struck by the peregrine. If the presence of witnesses prevented the falcon from following the bird to the ground, why did it strike down a second, except for the sake of useless slaughter? I have clearly watched this happen with grouse. I have seen a peregrine also dash down into a large flock of starlings, and leaving two or three falling to the ground, continue its flight after a crow or rook, which it pursued within a few yards of my punt."[1]

When rearing their young on an inland moor where few birds except grouse are to be found, the number destroyed by the falcon is almost incredible. In 1881, a pair of these birds made their nest in an inaccessible rock on a grouse-moor in Argyleshire. The keeper, who is an accurate observer, had his attention attracted to the eyrie, and found, after concealing himself and watching for five hours, that one of the birds brought seven grouse and dexterously transferred them to his mate, which flew out from the eyrie and met him in mid-air. This being recorded by us in the 'Field,' the keeper's veracity was called in question by some would-be naturalists, and the

[1] 'The Field,' December 10, 1881.

"story" consigned to "the region of romance." After having our testimony disposed of in this summary fashion, we resolved to test the habits of the peregrine for ourselves, and in the spring of 1882 made a tour of investigation in Ross-shire and Sutherlandshire. As the result of our tour, and not without considerable difficulty, we accomplished our purpose. With the aid of a keeper we found an eyrie, but unfortunately the young birds had left it. They, however, were sitting about the rock; and, watching from a distance, we descried the parent birds several times bring prey, and the young birds flew out from the rock and snatched it from them in the air. Though we only waited a little over a couple of hours, we saw sufficient to justify us in condemning the absurdity of mere theorists writing and calling in question the veracity of men of practical experience and observation.

It is doubtful if there is any British bird more highly gifted with instinct and the capacity for apprehending danger than the peregrine falcon. While possessing all the natural wildness and penetration of the eagle, it seems to have superadded all the acuteness and foresight of the fox. During the breeding season, when birds appear all but universally less alive to danger, the falcon stands out as a notable exception. From the time the young are hatched, generally in some inaccessible rocky cliff, the male bird, from early dawn till dusk, with rare intervals, sits prominently as a sentinel surveying the whole

landscape. No sooner is any intruder discovered directing his steps towards the eyrie, than he circles in the air, uttering a sharp warning note, the effect of which is to prevent the female approaching towards the nest until all danger has disappeared.

So recently as June of this year (1884), while prosecuting certain investigations in natural history in the Highlands, we came upon a peregrine's nest in Craig-an-Dhuie, in Glen Tilt. As we approached the rock where the nest was located, the male bird struck out from a high elevation above the nest, and shot right up into the air several hundred yards, where he continued circling high overhead, keeping up a sharp piercing cry indicative of alarm. While we stood concealed from view about a hundred yards from the nest, the hen swooped up the glen with a grouse in her talons, and with the rapidity of lightning placed it upon a ledge of the rock close by her young brood. While in the act of doing so, she heard the cry of her mate, which had previously been unnoticed. In an instant she shot up like a rocket into the sky, where, in company with the male, she circled in the air for several hours; and it was not till we had left the rocky cliff a distance of nearly a couple of miles, that either of them ventured to direct its flight towards the eyrie. We subsequently learned from one of the keepers that they had never ventured into the ravine during the whole afternoon, as he with his glass had observed them flying right above the nest after sunset.

It is alleged that the peregrine migrates in winter.

This we are prepared to deny, having personally observed them in the months of December and January. Like the woodcock, many of them doubtless migrate, but it is indisputable that some remain.

In the spring, when grouse and ptarmigan are in pairs, falcons are very destructive, and, like Mr Booth, we think "rather than make an injured saint of him, far better describe him in his true colours as a bold and pitiless marauder." At the same time, and as already indicated, we do not advocate their extermination, but, on the contrary, think that in deer-forests they should be preserved. From the large tract of country now under deer; the high and rocky mountains which are generally "cleared," and which also constitute the habitat of the peregrine; and as they cannot be trapped with baits on grouse-moors—eating only what they kill,—the extermination of the falcon would not be easily accomplished. We think that sportsmen who pay £1 a brace or more for their grouse, ought to be the best judges whether or not they want the co-operation of the peregrine falcon in killing their game.

The buzzard, though larger than the peregrine, in our opinion does but little harm to winged game. From observations in the neighbourhood of their nests, and *post mortem* examinations, we feel justified in stating that their staple food is hares, rabbits, moles, mice, and frogs, as in no case have we found feathers. We have heard, however, from those whose veracity we are not disposed to question, that the

limbs and wings of grouse and other birds have been found in proximity to their nests.

In the summer of 1882, a brood was reared at Dalnaspidal in Perthshire. Though they were frequently seen near Loch Garry, the keepers at our request allowed them to harbour unmolested, and during the entire season nothing occurred to satisfy us that the grouse had suffered in consequence.

The kite and hen-harrier, though both very destructive to game, are now so rare as to be found almost exclusively in deer-forests. Hence we think their extermination would be regretted by all naturalists.

Every sportsman and keeper must be familiar with the destructive habits of the sparrow-hawk. The daring and impudence of these birds none but those who have been eyewitnesses can credit. We have known cases where pheasants were being hand-reared, and where this little impudent thief had succeeded in carrying off twenty or thirty young birds before it was shot. With the rapidity of lightning it dashed in from some adjacent rock or wood, and notwithstanding that the keeper was on the watch with gun in hand, it succeeded in clutching its unsuspecting prey before the mother-bird could give an indication of warning, and was out of range before an aim could be secured.

In the summer of 1880, a pair of these birds made their nest and were rearing their young on the banks of the Esk, about half a mile from Melville Castle, where the keepers were rearing young pheasants.

Though they had frequently been seen flying over at a great height, it was not till the young birds were about the size of full-grown partridges that the first quarry was made and one carried off before the eyes of the keeper. Again and again it returned, notwithstanding its being several times fired at, at long distances; and it was in the act of carrying off the eleventh bird when by a lucky long shot its wing was broken. Being present at the time, we commenced a diligent search for the nest in the direction taken by the bird after securing its prey. With some difficulty, in consequence of the denseness of the wood, we were fortunate in finding it. Concealed among some brackens beneath the tree, we had not long to wait till the female made her appearance bearing a young partridge, and settled on the edge of the nest. Seeing her indistinctly, we fired at once through the branches, and being within twenty yards expected to have killed her. With the aid of a ladder we scaled the tree and found her dead beside her quarry, and three lively young ones nearly fledged, which were quickly thrown over the nest.

The sparrow-hawk is remarkable for the great difference in size between the male and the female—the latter being very considerably larger than the former. It is one of the boldest of the hawk tribe; and small as he is, we have seen a male attack a full-grown cock-pheasant in the month of September. It was feeding on a stubble, when the hawk, flying low, skimmed over the hedge and pounced upon it. The

pheasant, however, escaped, minus some feathers, and ran through a wire fence which separated the stubble from a field of rank potatoes. The hawk perched on one of the posts of the fence, where it sat motionless for fully an hour; but as there seemed no indication of the pheasant reappearing, it flew off, much to our regret. The sparrow-hawk is a fatal enemy to all kinds of winged game, and when it is allowed to exist, broods of grouse, black-game, pheasants, and partridges disappear to an alarming extent.

The kestrel is the most common of our British hawks. It is easily known from the manner in which it hovers in the air in one position for a long time by a scarcely perceptible quivering of the wings. It is with regret that we see this bird nailed in such numbers to the "vermin-board" by gamekeepers, as we believe there is no better friend of the farmer than the kestrel. One once fell to our gun in the act of carrying off a young partridge from a coop where we were hand-rearing them. That act, however, has long ago been forgiven, as for many years after, we carefully dissected any that came in our way, and in few cases did we find game of any description. Carefully taking notes of what their crop and gizzard contained, we find, by referring to these, that their staple food is rats, mice, moles, frogs, lizards, beetles, caterpillars, &c. We have found as many as four mice in the crop and gizzard of one bird, besides a number of beetles.

Recently we were interested in watching the move-

ments of a kestrel in a field being ploughed at Craigmillar. The bird was perched on a tree fully a hundred yards from where the nearest plough passed up and down. Ever and again it flew to and hovered for a time behind one of the ploughmen, returning always to its position on the tree. Getting interested in its proceedings, and wishing to ascertain its purpose, we walked up and down the field with one of the ploughmen. Evidently not liking our appearance, it did not again come near the plough we accompanied. However, we had ample opportunities of observing its habits at the other ploughs, and found it was in pursuit of mice, which were frequently being unearthed. At times the ploughs were between two and three hundred yards from its perch, but on a mouse appearing, it was quickly seen and flown at by the kestrel. In most cases the mice got out of sight before the arrival of the hawk, when, as already indicated, it hovered above the place for a time, and returned to the tree. Twice, however, we saw it pounce upon and carry off a mouse. What struck us as remarkable was the keen powers of vision in the bird detecting mice on the new-ploughed ground at a distance which to the human eye was impossible. The structure of hawks' eyes show that they possess a power of vision which is unknown to almost any other bird. In this we discover another illustration of the laws of adaptation, as without this advantage the difficulties in securing their food-supplies would be insurmountable.

The merlin is the smallest of our birds of prey, but small as it is, it has been seen to kill full-grown grouse and partridges. From personal observation, however, we have never seen it kill larger birds than blackbirds and thrushes. Its staple food we believe to be larks, wheatears, and the smaller birds; but when grouse, partridges, and pheasants are young, it is known to do much mischief. Remarkable illustrations of the cunning displayed by the merlin are frequently recorded. We learn from a paragraph which appeared in an Edinburgh newspaper, that an engine-driver had for several years witnessed the tactics of one of these birds, which frequently attended him on his journeys. It usually followed the train, sometimes partly hidden by the smoke, and watching for the small birds which the train frightened as it passed. While the birds were thinking more of the "iron horse" than of anything else, it made its swoop at them with incredible speed, and if it missed, returned again to continue its flight in the wake of the carriages. Though the engine might have a start of 150 or 200 yards, it came up to it in a second or two, watching the rising of a bird from one of the hedges bordering the line. It is well known by naturalists that the difficulty with a wild hawk is not so much that of striking down its victim when on the wing, as of getting it to rise when it is in sight.[1]

Another interesting specimen of the hawk tribe is the osprey. This bird is in no way destructive to

[1] 'Edinburgh Evening News,' Sept. 20, 1879.

game, living entirely on fish. Many proprietors on whose property they breed, being aware of their scarcity, now give orders for their preservation. On the turret of an old castle on an island on Loch-an-Eilan in Inverness-shire, they breed annually. The loch is visited by naturalists and tourists from all parts of the country, and so particular is the proprietor that the eyrie shall not be interfered with, that whenever he hears of the arrival of the birds, he at once orders the removal of all boats from the lake.

It is most interesting to watch the osprey fishing and feeding its young. Like others of the hawk tribe, it hovers in the air in search of its prey until it perceives a fish, when, quick as lightning, it dashes down on its victim. When a fish is caught and carried to the nest, it holds it with one claw and tears it to pieces with its bill, giving the young birds a bit alternately until the fish is exhausted. Without loss of time it again sets out on another fishing excursion, sometimes crossing the country for ten or twelve miles to a distant lake.

While on a tour of investigation in Ross-shire in the spring of 1882, we were anxious to get in close proximity to the eyrie of an osprey, and, not without considerable difficulty, accomplished our purpose. On leaving a well-beaten sheep-track, we were necessitated to clamber up a mountain-steep where the ascent was most difficult. Fortunately, we fell in with a shepherd, who kindly offered to act as our guide towards the eyrie. On approaching within about three hundred

yards, both birds flew out from the rocky face towards an adjoining lake, over which they flew circling about, evidently watching the movements of those who had intruded upon the solitude. Four stunted Scotch firs grew out from the jagged rocks, two of which were occupied by the nests of hoodie-crows, and a third, the most decayed tree of the four, by the eyrie of the osprey. The tree was neither high nor difficult to climb; but any one attempting it, if unfortunate enough to fall, would drop four hundred feet into the dark waters of the lake beneath. The nest contained four eggs, some considerably darker in colour than the others. We were glad afterwards to learn that the birds succeeded in rearing three young ones undisturbed and safe. The shepherd informed us that when the young are hatched, he makes a point of going near the eyrie every day, where he generally gets a pike or trout carried thither by the parent birds.

The raven is the largest and most gluttonous of the crow species. Though its staple food is carrion, braxy sheep, and stricken deer, it has also been known to attack sickly lambs, picking out their eyes while still alive. Eggs and young birds are greedily eaten; and where ravens are allowed to exist, it is surprising how a brood of grouse escape. Hatching early, the broods fly hunting about from daylight to dark; and gifted as they are with such keen powers of vision, it is surprising that they miss anything. We were somewhat interested in watching a brood hunting for a covey of ptarmigan on the mountain-

OSPREY AND YOUNG.

ridge above the Pass of Drumouchter. Having started before daylight, we were on the summit between three and four o'clock; but a cloud of mist coming on, we sat down among some boulders to await its clearing off. After sitting for some time, we heard a great commotion among some ravens, but in consequence of the denseness of the mist, could not see them. It, however, clearing off a little, we were able to see the sable birds flying round in a circle, one of them ever and again settling on the ground, while a pair of ptarmigan fluttered about, vainly endeavouring to decoy the ravens from the spot. Gathering from the noise that they were destroying the young ptarmigan, we sat motionless till some of them in their aerial circles came within thirty yards of us, when—though only loaded with No. 6 shot—we dropped a couple. On going to the spot, nothing was to be seen; and after hunting about with our retriever, only one young ptarmigan, somewhat less than a thrush, could be found. On dissecting the two ravens, we found in the gizzard of one of them two young ptarmigan which had been swallowed whole.

Nesting as early as March, young ravens are hatched and require a deal of food when most game-birds are breeding, so that the havoc they commit is incalculable. Breeding generally in inaccessible places, they seem instinctively to know when grouse-shooting commences, and resort to the locality to feast upon those wounded birds which escape from the sportsman. We have frequently observed this on the

Dalnaspidal ground. Although there is not a raven bred on that wide area of shooting, they, about the 12th of August, congregate in large numbers, hunting all over the moor for dead and wounded grouse, and roosting at night among the precipitous rocks which are to be found in that mountainous district. While fishing in Loch Garry in August 1882, we observed a flock of about a hundred ravens croaking along the mountain-ridge, and towards dusk repair to roost in a water "rut" or gully, washed to a great depth by the torrents of centuries, in the steep face of Meall-na-letdhrach. When starting for the lake the following evening, we took a gun with us. As daylight began to close, the ravens appeared and settled in the "rut." Pulling to the side, and asking Angus, the boatman, to accompany us, we ascended the hill. Keeping at a considerable distance from the "rut" till opposite the roosting-place, we waited a short time till the croaking ceased, and cocking our gun, walked stealthily forward. What appeared a small "rut" from the lake, turned out to be a ravine worn by the action of water to the depth of about thirty yards, the sides of which were marked with jagged rocks, on which the ravens roosted. As we neared the edge, out they flew, and we had no difficulty in knocking down a couple. Falling into the bottom of the "rut," we had some difficulty in getting into it to secure them. By going higher, however, we managed to get in, and were wending our way downwards among the shingly "sclithers" to where the birds lay, when we had one

of the narrowest escapes we ever experienced. As already observed, the earth was washed out of the "rut," and thousands of tons were lying at the bottom close by the side of the lake—in fact, for a considerable distance the mass projected into the water. Angus, who was coming down behind us, stepped upon a large boulder, several tons in weight, and no sooner had he put his foot on it than it rolled off, and came rumbling down the gorge like an avalanche. Angus's cry of alarm and the rumble of the boulder warned us of the impending danger, and with the instinct of self-preservation we sprang up the side, which at the place was almost perpendicular. We stuck for a few seconds, but the "schithery" rock giving way, we slid down again into the bottom of the "rut." During the short period that intervened, the boulder passed; and though we were severely bruised by rolling stones which followed in its rear, we managed to keep our feet and watch it rumbling down with ever-increasing speed till it splashed into the dark waters of the lake. Had we not succeeded in avoiding the boulder as it rolled past, the consequence would have been certain death. On picking up the two ravens and examining their gizzards, we found them full of flesh, evidently that of mutton, a dead sheep being no unusual sight in that locality.

The promptitude with which those birds discover a dead sheep or stricken deer is remarkable; indeed they have frequently their eyes picked out and the tongue torn from their mouths before life is extinct.

It is no unusual thing for the deer-stalker to discover the whereabouts of the wounded stag by the presence and movements of those voracious birds.

As ravens destroy grouse and other game-birds, and as they are one of the factors which prevent grouse from appearing more generally on the table of the middle classes, and which make them six shillings a brace instead of half of that sum, we feel justified in urging their extermination.

The carrion-crow, the hoodie-crow, and the magpie may be classed in the same category. They all destroy young game and eggs, the two former being frequently seen hunting a moor as systematically as well-trained setters. Instances are recorded of the carrion and hoodie crows breeding together; but in such cases the young must take to the one or other, as we never saw anything indicating a cross. From the absence of trees in many parts of the Highlands, they sometimes breed in a birch or alder bush a few feet from the ground. Except in deer-forests, they are generally killed down by gamekeepers, although in some districts, and more especially by the sides of rivers, they may be found in considerable numbers. A dead salmon washed ashore constitutes a favourite repast; and since salmon disease has become so common, they have no difficulty in the winter and spring months in obtaining their food-supplies. We have trapped large numbers in the lower reaches of the Tweed by using as bait fresh-water flounders which were brought ashore in the

salmon-nets. Setting the traps close to the edge of the water, a flounder with its white belly up proved an attractive bait, which they did not seem able to resist. On one occasion, while taking a walk with a gun, our attention was attracted by the noisy clamour of a brood of crows. We stalked down a narrow plantation by the side of a small brook, and getting within fifty yards, watched their operations. In the absence of rain the brook was almost dried up, and where the crows were engaged there was a small pool, contracted by the long drought to an area of a few square feet. A few trout were there imprisoned, and two of the crows—we presume the old birds—one at each side, were catching them, and when one was secured it was carried off to a field and divided among the brood. After watching them for a time, we summarily put a stop to the proceedings by a couple of shots. On going forward to the place we found about a dozen trout imprisoned, as already described.

The magpie is one of the most expert thieves, and feeds very much in the same manner as the crow. It hunts a great deal among trees for the nests of birds, which are robbed, it matters not whether containing eggs or young. We have known a brace of magpies keep wood-pigeons in a spruce-wood of ten acres from breeding. When young, like other boys we were fond of bird-nesting, and almost daily found the nests of wood-pigeons; but on again visiting them, the eggs were gone, which we never could account for. It was extremely rare to find young pigeons. Ascer-

taining that the magpies were the robbers, and learning the art of trapping, we managed to destroy several for four or five consecutive seasons, with the result that no more came, and the wood-pigeons got leave to hatch.

In a wood at Craigmillar we once saw a magpie trying to put a wood-pigeon off her nest. We could not understand its object, till the pigeon flew off on our approach. Leaving the place, but keeping our eye on the nest, we had not gone far when the magpie appeared and robbed it. When a covey of young partridges or pheasants is found by a magpie, it will carry off the entire brood unless the parent birds can get them into cover too thick for its keen eyes. Though partial to flesh and eggs, magpies will eat almost anything. We once dissected one shot at Ladykirk in Berwickshire, and found its gizzard full of barley. Another we shot off her eggs at the Inch, near Edinburgh, contained two lizards three inches long which had been swallowed whole, and which were doubled up in the gizzard. Strange enough, within a few days thereafter the cock bird introduced another mate to the nest, which shared the same fate as its predecessor. Magpies are easily trapped by using eggs or any sort of flesh as a bait.

Rooks also are very fond of eggs, and the quantity destroyed by them is vexatious. To prevent this havoc altogether is impossible, their numbers being legion. There are those who affirm that rooks do not rob grouse-nests. There can be no greater mistake.

Let any one visit those mountain-springs frequented by rooks, on an unprotected grouse-moor, during the months of April and May, and he will be surprised at the number of egg-shells which he will find to have been carried thither by the rooks. Indeed the extent to which grouse-nests are robbed by rooks, more especially in the south of Scotland, where the cover is scant, is simply incredible. In pheasant-preserves we would suggest that all the early-laid eggs be lifted by the keepers, hatched, and hand-reared. Beginning to nest towards the end of April, there is very little vegetation to cover the nests, and this also being the time when rooks require a deal of food for their young, eggs are destroyed in large numbers—in fact, we are of opinion that in open ground very few nests escape their vigilant search. After May comes in, leaves come quickly out, grass and weeds grow fast, and prove a great protection to the nests of pheasants and partridges from the searching eyes of the rooks.

While the rook, more especially during the summer months, frequents the more remote districts of the country, it is also to be found in the centres of civilisation, and is occasionally treated as a domestic favourite. It is in such circumstances that the shrewdness and forethought of the rook are discoverable. In a small garden in the immediate suburbs of Edinburgh, a number of rooks have been regularly fed for a series of winters. It having been noticed that they had a special fancy for flesh-meat, the

scraps from the dinner-table were regularly preserved for their breakfast on the following morning. A couple of stray cats were in the habit of turning up to join the rooks at breakfast. The rooks by their noise and offensive attitude proved themselves able to keep the cats at bay until their appetite was fully satisfied, when, on their leaving, the cats picked up the remaining food. On the rooks discovering this, it was an interesting study to observe them, after having satisfied themselves, picking up pieces of the remaining meat and carrying them into different parts of the garden, where they carefully buried them in the earth, or covered them with a small piece of turf which they utilised for the purpose. During the afternoon they regularly returned, and with unerring accuracy disinterred the pieces of meat concealed in the morning.

While staying at Dalnaspidal, we were interested in the movements of a stray rook which we observed paying a regular visit to a goods-waggon standing on the siding at the station. Curiosity led us to ascertain what could be the object the sable visitor had in view. On watching his return to the waggon one afternoon, we were not a little amused to discover him perch at the side of the wheel of the waggon, and by placing his neck awry, was able to push his beak sideways under the lid of the grease-box, and by a process of ingenuity rarely equalled by the feathered tribe, was thus able to dine at the expense of the Highland Railway Company.

Jays and jackdaws also destroy eggs, and we would suggest trapping as many as possible with eggs in places frequented by them.

We cannot close this chapter without repeating what we have elsewhere indicated, that notwithstanding all that certain theorists may have written about the "balance of nature" adjusting itself, the destruction of vermin is an essential condition to good sport. This truth is so thoroughly borne out by experience, that we can only express surprise at its being called in question by any who have had the means of informing themselves upon the subject.

Peregrine Falcon.

The Poacher's Dog.

CHAPTER XX.

GAME-PRESERVING.

The subject reserved for our concluding chapter has to a large extent been already anticipated. In treat-

ing of ground and winged vermin, we dealt with the enemies of every species of game with that fulness of detail demanded by the importance of the subject. To neglect to deal continuously and effectively with the poaching fraternity, is to permit the introduction of a state of things which is incompatible with such a stock of game as can either afford pleasure to the naturalist or enjoyment to the sportsman. There is here necessarily involved an expenditure of money on the part of the proprietor, and ceaseless anxiety and watchfulness upon the part of the keeper, which cannot possibly be dispensed with.

There are, however, apart from vermin, other agencies at work which necessarily tend to limit the quantity of game. These may be classified under two heads—passive and active. Under the former head there are three sources of mischief to game which demand special attention. Two of these have been called into existence in the interest of agriculture, and the other in that of advanced civilisation.

Under existing conditions it is impossible to avert their mischievous results; but very much may be done to minimise them. In order to this we shall briefly direct attention to the three several points here raised. First there falls to be considered the erection of stone walls as fences, more especially in the Lowlands of Scotland. In tracts of moorland that have been reclaimed, the stones collected on the reclaimed parts are generally utilised for building walls. These walls very frequently prove disastrous

to game, and more especially ground game. As gateways are here and there made in the walls, facilities are thus afforded for netting hares, as they have no means of escape other than the gateways. When a field surrounded by walls as we have described is young grass, hares repair thither in the evenings to feed. The numbers that are destroyed by netters in such places are very great. We have known preserved ground where, during the cutting of the crops in autumn, the stock of hares driven from the cut crops into the coverts or adjoining moorland, was in the highest degree satisfactory. Within the space of a few days thereafter, it has often been found that almost the entire stock had mysteriously disappeared, and which it was subsequently ascertained had been systematically carried off by the netters having made a midnight raid upon the stubble-fields which had been sown with young grass, where they well knew the hares had congregated to feed during the night. By this means it is no unusual thing for tracts of country where the fences are stone walls or "dry-stane dikes," to be cleared of almost every hare by this despicable class of poachers, whose only object is a monetary one.

Stone walls are also prejudicial to the preservation of winged game, from the facilities they afford to poachers stalking unobserved behind fences of this description.

The evils referred to, in so far as ground game is concerned, are entirely obviated by the substitution

of wire fences. While hares can cross them at every part without interruption, it is otherwise with dogs in pursuit. We have known several instances where those detestable pests of the keeper, the cross between the greyhound and the collie, termed lurchers, have been rendered useless, when following hard after ground game, by coming in contact with these wire fences. Greyhounds also, when coursing, have suffered from the same cause. Experience, however, has proved the danger to be such, that coursing, as a rule, has been abandoned where wire fences are numerous.

While wire fences are less destructive to ground game than stone walls, it is otherwise with winged game. The number of birds destroyed by flying against these wires, although only a few feet from the ground, is very considerable.

On the Dalnacardoch moors some years ago, two parts, of fifteen or twenty acres each, were planted with young trees, and fenced round with an ordinary wire sheep-fence. During the construction of the fence, numbers of birds were observed to fly against the wires and kill themselves. On its completion, the keepers walked along the side of the fence daily for a considerable time, and found such numbers of dead grouse that they were compelled to devise some means of putting an end to the serious mischief that was being done. Setting to work, they pulled bunches of heather, which they attached with small wire, a few feet apart, on the top wire all round the fence

The effect of this was most salutary, as it attracted the attention of the birds to the fence, and was the means of inducing them to fly over the wires. This device, however, did not prove an effectual remedy, as when shooting in August we frequently saw birds —especially young ones—fly against the wires and kill themselves. We would recommend, in all cases where game is plentiful, that a wooden bar or railing should be put along the top of the fence, like one of the bars of an ordinary wooden paling. By this means the birds would discover the fence, and as they would not care to fly under it, the mischief referred to would be altogether obviated.

We shall have shortly to refer to another species of wires of a still more dangerous and destructive character.

Another modern innovation in the interest of agriculture is the reaping-machine. When in operation, the quantity of game, both winged and four-footed, that is destroyed by it is simply incalculable. The destruction is aggravated by farmers generally beginning a field or large square of a hay crop and cutting round, gradually narrowing it to a centre, when, as a matter of course, the game keep the cover till they are eventually huddled into such small space that large numbers of the young ones are destroyed. The same remark applies to the cutting of corn, though by this time the young birds are stronger on the wing, and consequently have more chance of escape. It is perhaps too much to expect that farmers would

be influenced by such considerations in carrying out their reaping arrangements, but it would certainly be an immense advantage if reaping operations could be so conducted that the machines would work towards the cover. By this means the game, hearing the approach of the reapers, would find their way into the cover without observation or molestation. When a field is cut round towards the centre, the game get confused and stupid by the clatter of the machine on every side, and are thus often prevented from making any attempt to escape. We would suggest that, where game is plentiful, keepers should endeavour to be on as friendly terms as possible with the farmers, and get them to leave an acre or so in the centre over-night, as, when all is quiet, the old birds will generally contrive to take their young to a place of safety.

When keepers have young dogs to train, we would encourage the breaking of them among the young grass in the spring, with the view of trying to drive pheasants and partridges out as much as possible, and induce them to breed among grain or in covers, where they are practically safe. As by this precaution large numbers of broods would be saved, we would strongly urge that this suggestion be persistently acted upon. As the birds ever and again return to the grass field, keepers are apt to get tired and discouraged in the daily prosecution of a work so monotonous and uninteresting. When, however, they see the numerous partridge and pheasant nests which have been de-

stroyed by the machine, they will regret, when it is too late, that they did not persevere in driving the birds forth to make their nests elsewhere.

We observe Mr Carnegie, in his latest work, very properly recommends that "the keeper, or some one that can be reliably trusted, should be present, attendant either on the mowers or following the machine, with the view to the discovery and acquisition of any hard-set nests," and that several sitting hens should be available for turning the eggs to account.[1] This is, no doubt, an expedient for minimising a mischief that has become inevitable; but it is at best an unsatisfactory one, seeing it is liable to many adverse contingencies. It is infinitely better, as it is much easier, to prevent the evil under discussion, than to avert or even mitigate the consequences when too late. Prevention in such a case as this is better than any subsequent remedy that can be devised. The only objection that can be advanced to the adoption of this course is the opposition which it may have to encounter from farmers. Of course, any wise and intelligent keeper would be able to perceive when his operations were really prejudicial to the interest of the farming tenant. It is almost unnecessary to add, that he would then feel it to be his duty to withdraw from hunting the hay-fields.

The only other modern innovation destructive to game to which we call attention is that of the tele-

[1] Practical Game Preserving, p. 88.

graph wires. When telegraph wires are carried along a road or line of railway which intersects a district abounding in game, many are found maimed or dead, occasionally with their heads cut off, in proximity to the wires. Along the Highland line, especially between Blair Atholl and Kingussie, large numbers are found by the surfacemen, and these, from August to December, constitute for them a considerable source of income. An amusing incident came to our knowledge while engaged on the moors there during the shooting season of 1878. A girl of one of these surfacemen was in the habit of regularly walking along the line of the wires in quest of dead grouse. Numbers of those she picked up had their heads severed from their bodies. Finding the game-dealer allowed her only half-price for those birds that were headless, she fell upon the clever expedient of neatly stitching the heads on the decapitated birds, and by this means perpetrated a form of pardonable deception upon the game-dealer.

None but those residing upon the spot can form an idea of the number of grouse thus destroyed. One forenoon, while shooting along the side of the Highland line in the pass of Drumouchter, we flushed a covey of strong grouse nine in number. We dropped a brace of them as they were making straight for the wires, when three out of the remaining seven were instantly killed; and on picking them up, we found one of them minus the head.

Grouse are not the only birds that fall victims to

the telegraph system. In the spring of 1882, while breaking a young pointer in a grass field near Liberton, a partridge rose to the dog, and on crossing the road struck the wires and killed itself. On calling upon the dog to "hold up" about half a minute after, its mate rose and also struck the wires. It, however, was only stunned, and flew away on our approach. This shows how great the destruction must be in places where birds are plentiful, as in the district to which we refer they were very scarce, while the pair of partridges were all that were in the field.

Many other birds suffer severely in the manner here described. Peewits, golden plover, missel-thrushes, teal, water-hens, rock-pigeons, woodcock, and snipe, we have all picked up on the road near the wires. It is in the early morning, at dusk, in a dense mist, or during a high wind, that the greatest amount of damage occurs.

A remarkable instance of the increased danger to birds during a high wind was brought most unexpectedly under our notice a few years ago, while travelling along the highway on a somewhat stormy evening after sunset between Melville Castle and Gilmerton. We were apprised by the cackling, of the approach of a flock of wild geese on their way southward from the coast. What with the darkness and the high south-west wind, the geese were flying unusually low; and before we had time fully to realise the situation, some ten or a dozen of them got entangled in the telegraph wires, and for a few seconds

were arrested in their course. Being, however, flying rather slowly, and the wind being right ahead of them, the shock was so diminished in force that they were all able to extricate themselves, and, so far as we were able to discover, suffered no serious injury.

We have in our telegraph system a source of destruction to game which was never contemplated when introduced, and for which there is only one satisfactory remedy. We refer to the proposal to have all telegraph wires placed under ground. This would prove a great public advantage, inasmuch as it would obviate all those interruptions to our communications arising from violent storms, and the disturbed state of the atmosphere from other and more subtle causes. We notice with satisfaction that the General Police (Scotland) Bill now introduced by her Majesty's Government contains provisions authorising the placing of telegraph wires under ground in all Scottish burghs. We have here the recognition of a great public improvement in municipal administration, which we are not without hope will one day be extended to counties.

In referring to those active forces which are at work in the destruction of game, they may be said to consist almost exclusively of ground vermin, birds of prey, and poachers. The first two having been already dealt with, it now only remains for us to direct attention to the last named. Poachers may be divided into three distinct classes, differing as widely in their several characters as in their mode of opera-

tions. There are those who belong to the generally well-conducted and industrious section of the community, who would scorn to commit any offence against society other than an infraction of the game-laws. While clearly understanding the nature and provisions of the statutes for the preservation of game, they recognise no breach of morality in their non-observance. This class of poachers contrive quietly to transfer themselves into some thinly populated district on the occasion of an autumn or winter holiday, and there devote the short time at their disposal in endeavouring to shoot such game as they may be able to fall in with during their wanderings. The quantity of game killed by this class of poachers is so trifling, and their motive merely to have a day's enjoyment in the country so manifest, that few landed proprietors are disposed to deal hardly by them when reported by the keepers.

There are those, again, who work the greater part of the year, but who never fail to turn to account any contingency which may arise in the way of dull trade or reduced wages as an excuse for indulging in poaching expeditions. One section of the community who contribute largely to this class of poachers is to be found among the mining population.

Before the organisation of the county police force in Scotland, and the imposition of the gun-tax, it was no unusual thing for large bands of miners to leave work for a week early in August, and scour some of the more extensive moors in Lanarkshire and Dum-

friesshire. They were invariably accompanied by well-trained pointers and setters, and wrought sad havoc among the grouse, and even black-game, which they shot down without discrimination. We have known a gang of upwards of twenty of this class of poachers, hailing from the Leadhills and Forth districts, fully equipped with guns and dogs, hunt across that wide expanse of moorland west of the Pentland range a few days before the 12th of August. Their practice was to keep within a hundred yards or so of each other, and to maintain a direct line from north to south, or from east to west, as it might be. They occasionally bivouacked among the hills during the night; and many of them being good shots, they bagged immense quantities of grouse, for which they found a ready market in anticipation of the opening season. Being bold and reckless men, and thoroughly organised, they were neither to be captured nor driven off the ground, having made up their mind to set all law at defiance.

In more recent times, such have been the social changes in the mining districts that an end has been put to the state of things which then prevailed. The lessees of coal and iron pits are now generally taken bound by their contracts to dismiss from their employment all known poachers—an arrangement which has been found to have a most salutary effect in the interest of the miners as well as that of the general community.

Such wild and romantic escapades were not con-

fined altogether to the mining classes, or to the pursuit of grouse and black-game. Even deer were not exempt from their predatory incursions. So recently as 1882, a gang of these marauders shot for several days in one of the more secluded and inaccessible regions of the Grampians, chiefly on the outlying parts of the shootings of Glenshee, Glenlochie, Glenfernate, Fealar, and Glen Tilt. They were accompanied by a hired gillie, who kept the mountain-tops, and with a telescope covered all the ground where the party pursued their lawless course. Their plan was to sleep on the heather, at the most remote distance from any human habitation, and commence operations with the first streak of daylight. By skilful manœuvring, a watcher one morning approached them. They sat down and readily entered into conversation with him, and generously proffered him whisky, of which they appeared to have a good supply. Instead of accepting it, the watcher asserted his position, and gave them to understand that he must have their names, otherwise he should feel it his duty to follow them into the low country. They then told him, in respectful but firm and resolute language, that they had come out for a few days' sport, and were neither to be captured nor diverted from their purpose. Being alone, and five or six miles from home, he had no alternative but to protest against their lawless procedure. On retreating homewards, he came upon the place where they had bivouacked during the night. They had chosen a deep

ravine, in which was a burn, and where, from the numerous windings, a light could not be seen at any distance. Quantities of plucked rank heather were lying about, which had constituted their beds. A fire had been kindled, on which they had cooked their food; and as a loaf of bread, a fresh haunch of venison, some fish, &c., were left, they no doubt had intended to return. On this occasion they all succeeded in making good their escape. Subsequently the depredations of this gang attracted the attention of other watchers, which led to increased vigilance both on the part of keepers and of the county police. This resulted in certain of the gang being captured on the public road, in a hired machine, near Kirkmichael. They had in their possession twelve and a half brace of grouse, four hares, and a blackcock. They were charged, before Sheriff Barclay, at Perth, under the Poaching Prevention Act, of having been found in illegal possession of game; and pleading guilty, they were duly convicted, while the game, guns, and cartridges were declared forfeited. One of them, a game-dealer in Coupar-Angus, was further charged with having, at the same time, committed a breach of the peace, by cursing and swearing, and threatening to strike with the barrels of his gun the constable who arrested him,—and pleading guilty, was again sentenced.[1]

The raids made into deer-forests by poachers are fortunately of rarer occurrence now than they were

[1] 'Perthshire Constitutional,' Sept. 25, 1882.

some fifteen or twenty years ago. About that time it was no unusual thing for poachers resident in the district to obtain their meat-supplies for the winter from the forest. They generally contrived to find their way into the mountain solitudes by the light of the moon; and after daybreak, having stalked one or two deer, they dragged them into a narrow gorge or mountain stream, where they were gralloched and concealed. Their next concern was to remain in concealment until darkness had set in, when they proceeded homeward with their booty. Some of these hill poachers have been known to be sufficiently daring to take with them a small Highland pony to lighten their burden.

The practice of poaching deer has—notwithstanding the weight of a stag—been frequently prosecuted by a solitary individual. In such cases the stag, after having been disembowelled, has, without being skinned, been cut through the middle, and the haunches thrown over the shoulders and carried home, the poacher returning, as a rule, for the forequarters during the following night. The strength and activity displayed by poachers of this description are of no ordinary kind. Some years ago, when in the north country, an adjoining deer-forest suffered considerably at the hands of a Badenoch poacher. His practice was to fraternise with the guard of a goods train on the Highland line, thus getting into a waggon at Newtonmore station, and leaping therefrom on its reaching Dalwhinnie, which it generally did about one o'clock in the morning. He

was thus able to travel many miles into the mountains before daybreak, and ere the sun was well up had generally succeeded in securing a deer. This being done, he lost not a moment in taking steps to have it transferred beyond the boundaries of the forest, where it lay concealed till it was convenient for him to carry it home. Strange to say, although this practice had been successfully prosecuted by the poacher in question for several years in succession, yet we are not aware that he has ever been seen in the forest.

Those poachers who steal out into the rural and moorland districts are not unknown in the Lowlands. They are thereby able to attack both winged and ground game in the early mornings and late in the evenings, when both are more easily approached. By stalking behind a stone wall, they are enabled to approach within easy shot of grouse or partridges feeding on the stubble, when they never fail to fire into the thickest part of the covey. By this means they not only succeed in killing several birds at a shot, but as numbers are generally wounded by the stray side pellets, the mischief done becomes aggravated. We have known as many as nine grouse picked up off a stubble-field, the result of a poacher having discharged his double-barrelled gun through a port-hole in the coping of a stone wall. It is unnecessary to say that as such practices partake in no degree of the element of sport, they ought to be put down with a firm and strong hand. The moors are often visited by this

class of poachers after gentlemen have gone south. By concealing themselves among moss-hags before daybreak, and stalking grouse on undulating ground on frosty mornings, they are thus able to secure large bags, for which they obtain good prices, grouse being at this season invariably in splendid condition. Another favourite practice pursued by this class is their tracking hares amid the snow, and driving them from turnip-fields to the gateways, where they are shot in large numbers in the moonlight.

The third and most dangerous and destructive class with which gamekeepers have to contend are those whom, without doing them any injustice, we designate professional poachers, and who consist of those dissipated and abandoned men who are frequently to be found loafing about public-houses, playing cards and indulging in kindred amusements,—men who glory in their lawless profession, and who may be said, as a rule, neither to fear God nor regard man. Their exclusive object being to get game, they are in no respect scrupulous as to the means resorted to, either by day or night, to accomplish their unlawful purpose. With them there is no close time, neither have the game any season of respite from January to December. The season with them may be said to commence when pheasants, grouse, and partridges begin to drop their eggs. Quietly and stealthily they scour the hedgerows, young plantations, and moorland wastes, robbing nests with merciless industry, and systematically carrying on a traffic in eggs, sometimes, we are sorry to say,

with parties who would be ashamed to have their names associated with such proceedings. The premium paid to these scoundrels for robbing preserved grounds of nests is amazingly high, and calls loudly for immediate legislation in order to the suppression of this most nefarious traffic. As the season advances they betake themselves to the moors, where, by the aid of dogs and nets, they entrap and carry off whole coveys of grouse, not unfrequently including even the old birds. For many of them, while alive, they find purchasers during the month of July; while those captured in August find their way into the London, Liverpool, and Manchester markets in anticipation of the 12th. It is highly creditable to the authorities in some of our northern counties that they have of late years been able to convict some of those illegal traffickers in game, and very properly to inflict upon them the heaviest statutory penalties.

The strangulation of hares by snares—at which, we are sorry to say, a certain class of shepherds are adepts—and the use of nets, constitute another outrage upon the game-laws. The number of hares carried off preserved grounds by the process of netting is simply incredible. As an illustration of the extent of the mischief done by these netters, we may refer to a case of detection which occurred in Selkirkshire a few years ago. The keepers on the estate of Broadmeadows having noticed a marked falling off in the number of hares, had their suspicions aroused that the netters had been at work. On examining several

of the gateways in the early morning, they discovered quantities of hares' fur, and traces upon the ground indicating the scuffle which had taken place while the hares were being murdered and taken out of the nets. As it was not to be expected this course of blackguardism could be allowed to continue, an arrangement was entered into with the adjoining keepers on the Bowhill and Hangingshaw estates, to watch night after night until the depredators were arrested. In a few nights thereafter, the poachers paid another visit to the preserve. About one o'clock in the morning a band of six netters were discovered at work in a field on the farm of Lewinshope. Only one of the number was captured, with a net and a hare in his possession. The following day other four men were apprehended by the Selkirkshire police. On the keepers going over the field where the poachers were found at work, five bags containing some twenty hares were picked up. On the Saturday night prior to the week on which the poachers were discovered, it came out that there were no fewer than ninety hares netted by the same party on the same farm. The party on both occasions had a hired machine from a neighbouring town. Although the authorities had six persons apprehended, it is to be regretted that a conviction could only be obtained against one of the number, who was very properly sentenced to six months' imprisonment.

If, in addition to sparring or putting wire netting on gates, keepers could be induced, immediately upon the

grain being cut, to select a field which had been sown out with young grass, and to watch during night without intermission the gateways entering to the hill or rising ground, we venture to predict that within one week they would be successful in detecting the poachers in those districts where the practice of netting is carried on.

The system of netting game during the night is not confined to hares and rabbits. Winged game also come within the sweep of the action of these midnight poachers, and in no case are they more successful than in that of netting partridges. In the capture of these birds during night, everything is in favour of the poacher. It is the habit of partridges for the most part to settle for the night in dry lea-fields, and to crowd closely together. The netters make a practice of going out towards evening into the byways and public roads, to mark the furrows or whereabouts in those fields where the partridges have settled for the night. By this means they are able to execute their work promptly and effectively, thereby minimising the risk of being taken. Partridges are thus carried off wholesale, to the disappointment of sportsmen and the vexation of keepers. As a means of preventing this mode of netting partridges, we would recommend that all likely fields should be most effectively bushed. The rougher the branches, and the more numerous, the better, so that there is the greater likelihood of the nets being entangled and torn. It must not, however, be supposed that this is a complete remedy,

and must on no account be allowed to take the place of night-watching.

It is when the netting of hares and partridges has ceased to be productive and the professional poachers become desperate, that they have recourse to the pheasant-preserves during night. As pheasants have by this time taken to the trees, where they invariably roost during the winter months, all netting operations are set at defiance. The poacher is thus compelled to resort to his gun, the report of which greatly increases his risk of detection. None knows this better than the poacher. It is the consciousness of this fact that makes him conspire with his fellows to resist being captured, often to the death; and it is at this stage of his career that it often culminates in the dastardly crime of violence and murder. It is in the public-house, with rare exceptions, that these midnight raids upon game-preserves are planned; and it is no less true that it is under the influence of drink that they are generally entered upon and carried out. Indeed, after a pretty long experience and close study of the habits and true character of this class of poachers, we are convinced that, but for their being fired with intoxicating liquor, it would not be possible for them deliberately to plan and enter upon an enterprise which they must know may terminate upon the gallows. Recent experiences in Scotland prove the accuracy of these observations. The Port-Glasgow case will readily suggest itself to the minds of not a few. On that occasion two poachers emerged from

a public-house armed with guns, and set off in pursuit of game. No sooner had they fired a couple of shots than the keepers in the exercise of their duty interfered. What really transpired remains to a large extent a mystery; only this we know, that both keepers were shot dead, and that the two poachers were tried and convicted of murder, and expiated their guilt upon the scaffold. Still more recently the Gorebridge tragedy was enacted. Again another midnight excursion—into the Rosebery preserves—was planned in a public-house. We shrink from chronicling the ghastly details of this sad event, further than to say that the poachers—one of them especially—under the influence of liquor, charged three keepers in deadly conflict, depriving two of them of their lives, and seriously wounding the third; and that again the scaffold claimed both the offenders as its victims. Thus within a short time eight lives have been sacrificed in Scotland as the direct result of night poaching, stimulated by the dissipated and lawless habits of those responsible for such sad and tragic fatalities.

The preservation of pheasants from the incursions of poachers during the night is one of the most serious difficulties with which the keeper has to contend. True, there are certain expedients he may adopt, but any or all of them may prove ineffectual. We would suggest that where foxes are not preserved, the birds should be prevented roosting in any trees other than the very thickest of firs. This, of course, involves

an immense amount of labour. The mischief done by shooting pheasants during the night may also be minimised by nailing artificial pheasants on the trees and by planting alarm-guns in the preserves; but there is no certain protection, that we are aware of, other than that of watching by active and judicious keepers.

There is still another class of enemies to the game-preserve, and which we refer to with reluctance. They are, in one sense, the most aggravated of all poachers, seeing that breach of trust and disloyalty to duty are added to that of positive theft. We refer to those unscrupulous and dissipated keepers who sell their masters' game, and by virtue of the trust reposed in them, are, as a matter of course, most difficult of detection. Fortunately, in so far as our experience goes, this is not a numerous class; still, true it is that the depredations of characters of this description are occasionally brought to light. Beginning in May to gather the pheasants' eggs, for which they find a ready market, they continue their malpractices throughout the entire season; and by netting, snaring, trapping, and shooting, they gradually drain the preserves, while the perplexed sportsman has his thoughts diverted by pure inventions about "gangs of poachers," "foxes in the covers," and "dishonest shepherds." Without exception, this class of keepers are secret or notorious drunkards, and will scruple at nothing to acquire the means necessary to indulge their craving for drink.

Some years ago we accompanied a gentleman for a day's sport on a well-stocked shooting not many miles from Edinburgh. There were two keepers on the estate, and certain circumstances transpired which excited our suspicion that they were not all that could be desired. As their employer was only an occasional visitor, ample opportunity was afforded them for killing and selling game. Every succeeding visit the game became scarcer, until at last numbers of the pheasants he shot were minus a foot, while pieces of brass wire were found round the necks and even legs of some of the hares. Certain information induced him to make some preliminary inquiry, when both keepers summarily decamped.

Another case of a similar description was brought under our notice very recently, where on an extensive shooting a splendid show of game—more especially pheasants—was gradually but rapidly disappearing. The tenant of this excellent shooting was at his wits' end to find an explanation, until one afternoon, when incidentally being in the district, he was passing through one of his covers towards the keeper's house, when the problem was unexpectedly solved. His attention was attracted to a net made of finely spun thread of several yards in length, running closely behind one of his feeding-boxes, and before which a considerable quantity of grain was strewn. Taking in the situation, he observed a small cord stretching from the net into a temporary hiding-place between two large spruce-trees, where he found his faithless

keeper with the cord in his hand ready to release the net when a sufficient number of pheasants had come within sweep. As a matter of course "the keeper" was instantly dismissed, when all manner of statements were made to his employer as to the extent and duration of his malpractices, but which no one had the candour or courage to communicate to him until he had made the discovery for himself.

Another keeper, of whose antecedents we knew something, was recently intrusted with the selling of the game and rabbits from an extensive estate, and who, it was ascertained, was in the habit of selling large quantities, for which he failed to give an account.

Dishonest keepers are encouraged and stimulated in their fraudulent practices by circulars distributed among them by a certain class of game-dealers, who, having once got them within their power, rule them with a tyrant's rod.

That the profession of gamekeeper should be purged from such discreditable members is most desirable, and to secure this object none have a greater interest than keepers themselves. Taking gamekeepers as a class, we feel bound to say that, for intelligence, industry, and probity, they will favourably contrast with any section of the industrial community. It is doubtful how far they are sufficiently paid; and certainly it is the duty, as we believe it is the interest, of landed proprietors and all genuine sportsmen to see that faithful and obliging keepers are considerately treated,

and at the same time liberally remunerated. No one acquainted with the long and irregular hours, the inclement weather, night-watching, and even danger to life, which they have to encounter, will care to dispute the reasonableness of our suggestion.

Caught on the Wires.

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